

**IT IS THE VENDOR'S RESPONSIBILITY TO CHECK
FOR ADDENDUMS PRIOR TO SUBMITTING PROPOSALS**

NOTICE TO BIDDERS SPECIFICATION NO. 06-013

The City of Lincoln, Nebraska intends to purchase and invites you to submit a sealed bid for:

52,000 & 35,000 GVWR Dump/Plow Trucks

Sealed bids will be received by the City of Lincoln, Nebraska on or before **12:00 noon Wednesday, January 25, 2006** in the office of the Purchasing Agent, Suite 200, K Street Complex, Southwest Wing, 440 South 8th Street, Lincoln, Nebraska 68508. Bids will be publicly opened and read at the K Street Complex.

Bidders should take caution if U.S. mail or mail delivery services are used for the submission of bids. Mailing should be made in sufficient time for bids to arrive in the Purchasing Division, prior to the time and date specified above. Late bids will not be considered. **Fax or e-mail bids are not acceptable. Bid response must be in a sealed envelope.**

52,000 & 35,000 GVWR Dump/Plow Trucks
SPECIFICATION NO. 06-013

BID OPENING TIME: 12:00 NOON
DATE: Wednesday, January 25, 2006

The undersigned, having full knowledge of the requirements of the City of Lincoln for the below listed phases and the contract documents (which include Notice, Instructions, this Proposal, Specifications, Contract, and any and all addenda) and all other conditions of the Proposal, agrees to enter into a contract with the City the below listed fees for the performance of this Specification, complete in every respect, in strict accordance with the contract documents at and for fees listed below.

ADDENDA RECEIPT: The receipt of addenda to the specification numbers _____ through _____ are hereby acknowledged. Failure of any submitter to receive any addendum or interpretation of the specifications shall not relieve the submitter from any obligations specified in the request. All addenda shall become part of the final contract document.

BIDDING SCHEDULE

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1.	52,000 GVWR Dump/Plow Truck (Street Maintenance) Chassis Make/Model _____ Body Make/Model _____ Hoist Make/Model _____	Six (6)	\$ _____	\$ _____
1A.	Option: 17.1 Delete GL400 as specified.		\$ (_____)	
1B.	Option: 17.2 Add Air Conditioning as specified.		\$ _____	
2.	52,000 GVWR Dump/Plow Truck (Utilities) Chassis Make/Model _____ Body Make/Model _____ Hoist Make/Model _____	One (1)	\$ _____	\$ _____
2A.	Option: 17.1 Add Air Conditioning as specified.		\$ _____	
3.	35,000 GVWR Dump/Plow Truck (Street Maintenance) Chassis Make/Model _____ Body Make/Model _____ Hoist Make/Model _____	Two (2)	\$ _____	\$ _____
3A.	Option: 17.1 Delete GL400 as specified.		\$ (_____)	
3B.	Option: 17.2 Add Air Conditioning as specified.		\$ _____	
4.	The bid will be awarded to one vendor for all three items.		Lump Sum	\$ _____

The purchase of additional unit by the City of Lincoln under this contract award will be held firm through: _____
/ /

BID SECURITY REQUIRED: _____ YES
 X NO

AFFIRMATIVE ACTION PROGRAM: Successful bidder will be required to comply with the provisions of the City's Affirmative Action Policy (Contract Compliance, Sec. 1.16). The Equal Opportunity Officer will determine compliance or non-compliance with the City's policy upon a complete and substantial review of successful bidder's equal opportunity policies, procedures and practices.

The undersigned signatory for the bidder represents and warrants that he has full and complete authority to submit this proposal to the City, and to enter into a contract if this proposal is accepted.

**RETURN 2 COMPLETE COPIES OF PROPOSAL AND SUPPORTING MATERIAL.
MARK OUTSIDE OF BID ENVELOPE: SEALED BID FOR SPEC. 06-013**

COMPANY NAME

BY (Signature)

STREET ADDRESS or P.O. BOX

(Print Name)

CITY, STATE ZIP CODE

(Title)

TELEPHONE No. **FAX No.**

(Date)

E-MAIL ADDRESS

ESTIMATED DELIVERY DAYS

Bids may be inspected in the Purchasing Division during normal business hours after tabulation and review by a Purchasing Agent. Bid tabulations can be viewed on our website at: lincoln.ne.gov Keyword: **Bid** A Letter of Intent will be listed on the website when a recommendation is received from the Department.

INSTRUCTIONS TO BIDDERS

CITY OF LINCOLN, NEBRASKA

PURCHASING DIVISION

1. BIDDING PROCEDURE

- 1.1 Bidder shall submit one (1) complete set of the bid documents and all supporting material, unless otherwise stipulated. All appropriate blanks shall be completed. Any interlineation, alteration or erasure on the specification document shall be initialed by the signer of the bid. Bidder shall not change the proposal form nor make additional stipulations on the specification document. Any amplified or qualifying information shall be on the bidder's letterhead and firmly attached to the specification document.
- 1.2 Bid prices shall be submitted on the Proposal Form included in the bid document.
- 1.3 Bidders may submit a bid on an "all or none" or "lump sum" basis, but should also submit a quotation on an item-by-item basis. Bidding documents shall be clearly marked indicating the kind of proposal being submitted.
- 1.4 Each bid must be legibly printed in ink or typed, include the full name, business address, and telephone number of the bidder; and be signed in ink by the bidder.
- 1.5 A bid by a firm or organization other than a corporation must include the name, address, fax number and email address of each member.
- 1.6 A bid by a corporation must be signed in the name of such corporation by a duly authorized official thereof.
- 1.7 Any person signing a bid for a firm, corporation, or other organization must show evidence of his authority so to bind such firm, corporation, or organization.
- 1.8 Bids received after the time and date established for receiving bids will be rejected.

2. BIDDER'S SECURITY

- 2.1 Bid security, as a guarantee of good faith, in the form of a certified check, cashier's check, or bidder's bond, may be required to be submitted with this bid document, as indicated on the Proposal Form.
- 2.2 If alternates are requested, only one bid security will be required, provided the bid security is based on the amount of the highest gross bid.
- 2.3 Such bid security will be returned to the unsuccessful bidders when the award of bid is made.
- 2.4 Bid security will be returned to the successful bidder(s) as follows:
 - 2.4.1 For single order bids with specified quantities: upon the delivery of all equipment or merchandise, and upon final acceptance by the City.
 - 2.4.2 For all other contracts: upon approval by the City of the executed contract and bonds.
- 2.5 City shall have the right to retain the bid security of bidders to whom an award is being considered until either:
 - 2.5.1 A contract has been executed and bonds have been furnished.
 - 2.5.2 The specified time has elapsed so that the bids may be withdrawn.
 - 2.5.3 All bids have been rejected.
- 2.6 Bid security will be forfeited to the City as full liquidated damages, but not as a penalty, for any of the following reasons, as pertains to this specification document:
 - 2.6.1 If the bidder fails to deliver the equipment or merchandise in full compliance with the accepted proposal and specifications.
 - 2.6.2 If the bidder fails or refuses to enter into a contract on forms provided by the City, and/or if the bidder fails to provide sufficient bonds or insurance within the time period as established in this specification document.

3. BIDDER'S REPRESENTATION

- 3.1 Each bidder by signing and submitting a bid, represents that the bidder has read and understands the specification documents, and the bid has been made in accordance therewith.
- 3.2 Each bidder for services further represents that the bidder has examined and is familiar with the local conditions under which the work is to be done and has correlated the observations with the requirements of the bid documents.

4. CLARIFICATION OF SPECIFICATION DOCUMENTS

- 4.1 Bidders shall promptly notify the Purchasing Agent of any ambiguity, inconsistency or error which they may discover upon examination of the specification documents.

- 4.2 Bidders desiring clarification or interpretation of the specification documents shall make a written request which must reach the Purchasing Agent at least four (4) calendar days prior to the date and time for receipt of bids.
- 4.3 Changes made to the specification documents will be made by written addenda to all known prospective bidders.
- 4.4 Oral interpretations or changes to the Specification Documents made in any other manner, will not be binding on the City; and bidders shall not rely upon such interpretations or changes.

5. ADDENDA

- 5.1 Addenda are additional documents issued by the City to prospective Bidders prior to the closing date for receipt of bids, which are intended to change or clarify the original plans and/or specifications., i.e. additions, deletions, modifications, or explanations.
- 5.2 Addenda will be mailed or delivered to all who are known by the City to have received a complete set of specification documents.
- 5.3 Copies of addenda will be made available for inspection at the office of the Purchasing Agent.
- 5.4 No addendum will be issued later than forty-eight (48) hours prior to the date and time for receipt of bids, except an addendum withdrawing the invitation to bid, or an addendum which includes postponement of the bid.
- 5.5 Bidders shall ascertain prior to submitting their bid that they have received all addenda issued, and they shall acknowledge receipt of addenda on the proposal form.

6. ANTI-LOBBYING PROVISION

- 6.1 During the period between the bid advertisement date and the contract award, bidders, including their agents and representatives, shall not lobby or promote their bid with any member of the City Council or City Staff.

7. BRAND NAMES

- 7.1 Wherever in the specifications or proposal form brand names, manufacturer, trade name, or catalog numbers are specified, it is for the purpose of establishing a grade or quality of material only; and the term "or equal" is deemed to follow.
- 7.2 It is the bidder's responsibility to identify any alternate items offered in the bid, and prove to the satisfaction of the City that said item is equal to, or better than, the product specified.
- 7.3 Bids for alternate items shall be stated in the appropriate brand on the proposal form, or if the proposal form does not contain blanks for alternates, bidder MUST attach to the specification documents on Company letterhead a statement identifying the manufacturer and brand name of each proposed alternate, plus a complete description of the alternate items including illustrations, performance test data and any other information necessary for an evaluation. The bidder must indicate any variances by item number from the specification document no matter how slight. Bidder must fully explain the variances from the specification document, since brochure information may not be sufficient.
- 7.4 If variations are not stated in the proposal, it will be assumed that the item being bid fully complies with the City's specifications.

8. DEMONSTRATIONS/SAMPLES

- 8.1 Bidders shall demonstrate the exact item(s) proposed within seven (7) calendar days from receipt of such request from the City.
- 8.2 Such demonstration can be at the City delivery location or a surrounding community.
- 8.3 If the bidder is proposing an alternate product, the City may request a sample of the exact item. Samples will be returned at bidder's expense after receipt by the City of acceptable goods. Bidders must indicate how samples are to be returned.

9. DELIVERY (Non-Construction)

- 9.1 Each bidder shall state on his proposal form the date upon which he can make delivery of all equipment or merchandise. Time required for delivery is hereby made an essential element of the bid.
- 9.2 The City reserves the right to cancel orders, or any part thereof, without obligation, if delivery is not made within the time(s) specified on the proposal form.
- 9.3 All bids shall be based upon **inside** delivery of the equipment/ merchandise F.O.B. the City at the location specified by the City, with all transportation charges paid.

10. WARRANTIES, GUARANTEES AND MAINTENANCE

- 10.1 Copies of the following documents must accompany the bid proposal for all items being bid:
 - 10.1.1 Manufacturer's warranties and/or guarantees.
 - 10.1.2 Bidder's maintenance policies and associated costs.
- 10.2 As a minimum requirement of the City, the bidder will guarantee in writing that any defective components discovered within a one (1) year period after the date of acceptance shall be replaced at no expense to the City. Replacement parts of defective components shall be shipped at no cost to the City. Shipping costs for defective parts required to be returned to the bidder shall be paid by the bidder.

11. ACCEPTANCE OF MATERIAL

- 11.1 All components used in the manufacture or construction of materials, supplies and equipment, and all finished materials, shall be new, the latest make/model, of the best quality, and the highest grade workmanship.
- 11.2 Material delivered under this proposal shall remain the property of the bidder until:
 - 11.2.1 A physical inspection and actual usage of this material is made and found to be acceptable to the City; and
 - 11.2.2 Material is determined to be in full compliance with the specifications and accepted proposal.
- 11.3 In the event the delivered material is found to be defective or does not conform to the specification documents and accepted proposal, then the City reserves the right to cancel the order upon written notice to the bidder and return materials to the bidder at bidder's expense.
- 11.4 Successful bidder shall be required to furnish title to the material, free and clear of all liens and encumbrances, issued in the name of the City of Lincoln, Nebraska, as required by the specification documents or purchase orders.
- 11.5 Selling dealer's advertising decals, stickers or other signs shall not be affixed to equipment. Vehicle mud flaps shall be installed blank side out with no advertisements. Manufacturer's standard production forgings, stampings, nameplates and logos are acceptable.

12. BID EVALUATION AND AWARD

- 12.1 The signed bid proposal shall be considered an offer on the part of the bidder. Such offer shall be deemed accepted upon issuance by the City of purchase orders, contract award notifications, or other contract documents appropriate to the work.
- 12.2 No bid shall be modified or withdrawn for a period of ninety (90) calendar days after the time and date established for receiving bids, and each bidder so agrees in submitting the bid.
- 12.3 In case of a discrepancy between the unit prices and their extensions, the unit prices shall govern.
- 12.4 The bid will be awarded to the lowest responsible, responsive bidder whose proposal will be most advantageous to the City, and as the City deems will best serve its requirements.
- 12.5 The City reserves the right to accept or reject any or all bids; to request rebids; to award bids item-by-item, with or without alternates, by groups, or "lump sum"; to waive minor irregularities in bids; such as shall best serve the requirements and interests of the City.
- 12.6 In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit additional information as deemed necessary by the City. Failure to provide the information requested to make this determination may be grounds for a declaration of non-responsive with respect to the Bidder.
- 12.7 The City reserves the right to reject irregular bids that contain unauthorized additions, conditions, alternate bids, or irregularities that make the Bid Proposal incomplete, indefinite or ambiguous.

13. INDEMNIFICATION

- 13.1 The bidder shall indemnify and save harmless the City of Lincoln, Nebraska from and against all losses, claims, damages, and expenses, including, attorney's fees arising out of or resulting from the performance of the contract that results in bodily injury, sickness, disease, death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom

and is caused in whole or in part by the Bidder, any subcontractor, any directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. This section will not require the Bidder to indemnify or hold harmless the City of Lincoln for any losses, claims damages, and expenses arising out of or resulting from the sole negligence of the City of Lincoln, Nebraska.

- 13.2 In any and all claims against the City or any of its members, officers or employees by an employee of the bidder, any subcontractor, anyone directly or indirectly employed by any of them or by anyone for whose acts made by any of them may be liable, the indemnification obligation under paragraph 13.1 shall not be limited in any way by any limitation of the amount or type of damages, compensation or benefits payable by or for the bidder or any subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

14. TERMS OF PAYMENT

- 14.1 Unless stated otherwise, the City will begin processing payment within thirty (30) calendar days after all labor has been performed and all equipment or other merchandise has been delivered, and all such labor and equipment and other materials have met all contract specifications.

15. LAWS

- 15.1 The Laws of the State of Nebraska shall govern the rights, obligations, and remedies of the Parties under this proposal and any agreement reached as a result of this process.
- 15.2 Bidder agrees to abide by all applicable State and Federal laws and regulations concerning the handling and disclosure of private and confidential information concerning individuals and corporations as to inventions, copyrights, patents and patent rights.

16. AFFIRMATIVE ACTION

- 16.1 The City of Lincoln-Lancaster County Purchasing Division provides equal opportunity for all bidders and encourages minority businesses and women's business enterprises to participate in our bidding process.

17. LIVING WAGE

- 17.1 The bidders agree to pay all employees employed in the performance of this contract, a base wage of not less than the City Living Wage per section 2.81.010 of the Lincoln Municipal Code. This wage is subject to change every July.

18. EXECUTION OF AGREEMENT

- 18.1 Depending on the type of service provided, one of the following three (3) methods will be employed. The method applicable to this contract will be checked below:
 - ☒ a. This Contract shall consist of a **PURCHASE ORDER** and a copy of the suppliers signed bid (or referenced bid number) attached and that the same, in all particulars, becomes the agreement and contract between the parties hereto: that both parties thereby accept and agree to the terms and conditions of said bid documents, and that the parties are bound thereby and the compensation to be paid the Supplier is as set forth in the Supplier's Bid. Items not awarded, if any, have been deleted.
 - ☐ b. The contract shall consist of a **YEARLY AGREEMENT** and a copy of the suppliers signed bid attached and that the same, in all particulars, becomes the agreement and contract between the parties hereto. That both parties thereby accept and agree to the terms and conditions of said bid documents, and that the parties are bound thereby and the compensation to be paid the Supplier is as set forth in the Suppliers' Bid. Items not awarded, if any, have been deleted.
 - ☐ c. Three (3) copies of the **CONTRACT**, unless otherwise noted.
 - 1. City will furnish three (3) copies of the Contract to the successful Bidder who shall prepare attachments as required. Insurance as evidenced by a Certificate of Insurance, surety bonds properly executed, and Agreement signed with the date of signature shall be attached.
 - 2. The prepared documents shall be delivered to the City within 10days (unless otherwise noted).
 - 3. The City will sign the Contract Agreement, insert the date of signature at the beginning of the Contract Agreement, prepare an Executive Order to go the Mayor for signature.
 - 4. Upon approval and signature from the Mayor, the City will return one copy to the Contractor.

**EQUIPMENT SPECIFICATIONS
SECTION I
52,000 GVWR DUMP/PLOW TRUCK
(STREET MAINTENANCE)**

1. INTENT AND GENERAL INFORMATION

- 1.1 It is the intent of this specification to describe a 52,000 GVWR DUMP/PLOW TRUCK to be purchased and delivered as a complete unit ready for operation, with all equipment indicated provided and installed.
- 1.2 This bid includes the truck cab/chassis, dump body, hydraulics, lighting package, snow plow hitch (less plow) and all installation and delivery costs.
- 1.3 The successful bidder will **NOT** be responsible for providing or installing snow plows or material spreaders as part of this bid.
- 1.4 The specification is generally a two section document with the first section describing the truck cab/chassis and the second section describing the dump body and associated equipment.
- 1.5 All bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Licensing Act. Nebraska revised Statutes, Chapter 60, Article 14.
 - 1.5.1 The licensing requirements must be met at the time of the bid opening for bids to be valid.
- 1.6 The equipment furnished under this specification be new and of the latest improved model in current production as offered to the commercial trade.
- 1.7 All equipment required to for satisfactory operation will be provided whether or not they are specifically addressed in this specification.
- 1.8 Trucks delivered must comply with all current State and Federal safety regulations.
- 1.9 Exceptions to any part of this bid document will be clearly noted by Item # on your company letter head and signed by the appropriate authority.

2. INSURANCE

- 2.1 The successful bidder will be required to fully insure all trucks and equipment, for all perils, until delivery to and acceptance by the City of Lincoln, Fleet Services, 901 North 6th, Street, Lincoln, NE.
- 2.2 Proof of Insurance must be furnished within five (5) days after notification of award to City/County Purchasing Division at the address on Notice to Bidders.
- 2.3 The bidder and all sub-contractors are required to submit proof of Garage Keepers Insurance with their bid proposal.
- 2.4 The City of Lincoln assumes ownership at the time of actual delivery at Fleet Services Garage, 901 North 6th, Street, Lincoln, NE. and acceptance of completed unit.

3. APPLICATION

- 3.1 This truck will be used in a variety of applications to include on/off road hauling of earth, construction rubble, crushed rock and in snow plow and ice control operations.
- 3.2 This application not only demands the truck act as the prime mover for the mounted equipment, but also utilized as the power source for the central hydraulic system through a transmission mounted power take off.
- 3.3 PTO and shaft drive hydraulic pump will be left side (8:00 O'clock transmission PTO location) mounted with hydraulic tank being left side outside frame mounted.
 - 3.3.1 To facilitate installation of the hydraulic system both the inside and outside of the left frame rail should be as clean as possible.

4. MODEL

- 4.1 The chassis furnished under these specifications shall be new 2006 or newer of the latest improved model in current production as offered to the commercial trade.
- 4.2 Example Model:
- 4.2.1 Sterling Acterra
- 4.2.2 International 7000 Series
- 4.2.3 Freightliner M2 106V
- 4.3 Examples listed are intended to show the type and class of chassis desired.
- 4.4 Bidders are cautioned to read the specifications carefully: the specifications may include special requirements not commonly offered by your standard equipment.
- 4.5 Do not assume your standard equipment meets all detailed specifications merely because it is listed above as an example.

Meet Specs.

Yes No

5. GVWR

- 5.1 52,000 lbs. minimum.

6. CAB TO TRUNION AND BUMPER BACK OF CAB

- 6.1 102 inch C/T.
- 6.2 106 inch to 107 inch BBC.

7. ENGINE

- 7.1 Engine shall be one of the following diesel engines:
- 7.1.1 International DT-466
- 7.1.2 Caterpillar C7
- 7.2 Minimum 285 gross horse power and 800 lb. ft. torque.
- 7.3 Minimum 7.0 liter.

8. ENGINE EQUIPMENT

- 8.1 Heavy-duty single element air cleaner with in-cab control auxiliary under hood inlet (snow valve).
- 8.2 Air cleaner mounted air filter restriction indicator.
- 8.3 Manufacturer's recommended High Capacity cross flow extra cooling design radiator with surge tank.
- 8.4 Peak "Final Charge" coolant with inhibitor, engine coolant to -35F.
- 8.4.1 No exception on brand or type of coolant requested.
- 8.5 Silicone or Gates Blue Stripe hose package to include radiator, heater and by-pass hoses.
- 8.6 Spin on coolant filter (If recommended by engine manufacturer)
- 8.7 Horton Drivemaster automatic on/off fan drive with normally closed temperature controls.
- 8.8 Minimum 1000 watt 115/120 volt block heater with receptacle mounted under left-hand door.
- 8.9 Alliance or Fleetguard fuel/water separator with thermostatically controlled electric heater.
- 8.10 Thermal electric intake heater.
- 8.11 Fuel system primer pump.
- 8.12 Minimum 25 qt. engine oil change capacity.
- 8.13 Spin on oil filter.
- 8.14 Magnetic engine oil drain plug.
- 8.15 Heavy duty starter motor with thermal over-crank protection.
- 8.16 Key operated electric shut down.
- 8.17 Electronic engine system diagnostics with cab mounted J1939 diagnostics port.
- 8.18 Engine shall be capable of electronic interface with Allison RDS series transmissions.
- 8.19 Electronic cruise control.
- 8.20 Electronic push button throttle.

Meets Specs.

Yes No**9. EXHAUST SYSTEM**

- ___ 9.1 Right hand horizontal muffler with vertical tail pipe and tail pipe guard.
- ___ 9.2 Exhaust will be low height design with a 90° turnout for cab shield clearance.
- ___ 9.3 Exhaust system to be frame or cab mounted with no more than 3 inches of CT loss.

10. FUEL TANK

- ___ 10.1 Single 50 gallon left side fuel tank with two access steps.
- ___ 10.2 Tank to be under cab mounted not extending beyond back of cab.

11. TRANSMISSION

- ___ 11.1 Allison RDS 3500 wide ratio, 5-speed with PTO gear and less retarder.
- ___ 11.2 Third gear hold feature.
- ___ 11.3 Instrument panel mounted Allison Push-Button type shift control.
- ___ 11.4 Manufacturers recommended transmission cooler.
- ___ 11.5 Optimum transmission programming for this application.
- ___ 11.6 Easily accessible enabled secondary vehicle ground speed terminal **MUST** be provided for material spreader application.

12. FRONT AXLE AND STEERING

- ___ 12.1 I-Beam type 14,000 lb., front axle - Meritor MFS-14-143A.
- ___ 12.2 Set-back axle configuration.
- ___ 12.3 Single steering gear.
- ___ 12.4 Stemco High Performance "Guardian" unitized wet seal or equal design.
- ___ 12.5 Front end alignment will be performed following body and equipment installation with documentation provided at the time of delivery.

13. FRONT SUSPENSION

- ___ 13.1 Minimum 14,000 lb. capacity leaf springs.
- ___ 13.2 Heavy duty shock absorbers.

14. REAR AXLE

- ___ 14.1 Single speed, single reduction, 40,000 lb. rear axle Meritor RT-40-145 with magnetic drain plugs.
- ___ 14.2 Driver actuated inter-axle differential lock.
- ___ 14.3 Driver actuated differential lock on rear rear axle.(no-spin is not acceptable)
- ___ 14.3.1 Differential lock shall automatically unlock at 25 MPH.
- ___ 14.4 Axle ratio will be determined at the time the order is placed.

15. DRIVELINE

- ___ 15.1 Driveline will be heavy duty and factory balanced.
- ___ 15.2 17T Meritor or equal, main and interaxle drivelines with half round yokes.

16. REAR SUSPENSION

- ___ 16.1 40,000 lb. capacity rear suspension Hendrickson HMX-400.
- ___ 16.2 Mounting height and axle spacing shall be truck manufacturers recommended.

17. FRAME

- ___ 17.1 120,000 minimum PSI yield strength, single channel straight frame.
- ___ 17.2 Minimum 2,000,000 in lbs. R.B.M.
- ___ 17.3 Huck-bolt frame member fasteners.
- ___ 17.4 Minimum 12" integral front frame extension.

Meets Specs.

Yes No**18. WHEELS**

- ___ 18.1 Minimum 7,000 lb. hub piloted, 8.25X22.5, 10 hole ventilated disc, steel wheels.
- ___ 18.2 Wheel to be powder coated, white or grey in color.
- ___ 18.3 Nylon wafers or wheel guards on all wheels.

19. TIRES

- ___ 19.1 11R22.5 H highway tread front tires, Goodyear G159 or equal.
- ___ 19.2 11R22.5 H traction tread rear tires, Goodyear G167 or equal.
- ___ 19.3 One spare front wheel and tire, same brand and model as furnished on truck.
- ___ 19.4 Tires to be Firestone, Goodyear, Michelin, B.F. Goodrich, Bridgestone, UniRoyal, or General and shall carry the company name.

20. BRAKES

- ___ 20.1 Dual air system for straight truck application.
- ___ 20.2 Minimum 13.0 CFM air compressor, Bendix Tu-Flow 550 or equal.
- ___ 20.3 Sealed non-serviceable long stroke front brake chambers.
- ___ 20.4 16.5" x 5.0" S-cam front brakes.
- ___ 20.5 Severe service, fully epoxied 3030 long stroke, rear brake chambers.
- ___ 20.6 16.5" x 7" S-cam rear brakes.
- ___ 20.7 Full vehicle wheel ABS control system.
- ___ 20.8 Bendix AD-IP air dryer with heater right side outside frame mounted directly behind cab.
- ___ 20.9 Right frame rail mounted air tanks with heated auto drain valve on wet tank and manual drains with pull cables on primary and secondary.
- ___ 20.10 Front and rear brake dust shields.
- ___ 20.11 Front and rear automatic slack adjusters with stainless steel pins.
- ___ 20.12 Color coded nylon brake lines.
- ___ 20.13 Color coded yellow, park brake knob on instrument panel.
- ___ 20.14 Trailer brake package with hand control and tractor protection valve for straight truck and trailer application.
- ___ 20.15 Air lines extended to end of frame. (see item #11 of body specifications)

21. ELECTRICAL SYSTEM

- ___ 21.1 12 Volt
- ___ 21.2 Minimum two (2) each heavy duty 12 volt maintenance free batteries with a total 1850 CCA capacity.
- ___ 21.3 Battery box, right side frame or under cab mounted.
- ___ 21.4 Remote jump start terminals.
- ___ 21.5 Delco 22-SI 130 amp capacity alternator.
- ___ 21.6 Circuit breaker protection.
- ___ 21.7 Color coded and protected wiring system.
- ___ 21.8 Power source terminals as follows:
- ___ 21.8.1 Two (2) stud type terminals on the fire wall.
- ___ 21.8.2 Negative terminal to frame rail.
- ___ 21.8.3 Positive terminal to starter.
- ___ 21.8.4 Minimum 6 gauge wire.
- ___ 21.9 Inside cab run/accessory relay activation terminal.
- ___ 21.10 Chassis manufacture must provide all wiring required by the final assembler for installation of lighting described in the body and equipment specifications.
- ___ 21.11 The final assembler will not be permitted to splice into any chassis wiring.

Meets Specs.

Yes No**22. CAB**

- ___ 22.1 Fully enclosed safety-type conventional cab with medium trim package and rear cab air suspension.
- ___ 22.2 Minimum 98 inches from grade to top of cab.
- ___ 22.3 Cab to have a minimum of 72 inches of shoulder room per specification sheet.
- ___ 22.4 Cab to have a minimum of 56 inches floor to headliner height.
 - ___ 22.4.1 Raised or bubble roof is not acceptable.
- ___ 22.5 Tilt-forward fiberglass hood and stationary grill.
- ___ 22.6 Hood access panel(s) to allow access to engine compartment without tilting hood.

23. CAB EQUIPMENT

- ___ 23.1 High back vinyl covered air suspension drivers and passenger seats.
 - ___ 23.1.1 "National 2000 Series" or "Bostrom 915"
 - ___ 23.1.2 Seats to be the lightest standard color available.
 - ___ 23.1.3 Both drivers and passenger seats will be fully adjustable for position and be complete with air adjustable lumbar support.
 - ___ 23.1.4 Both drivers and passenger seats will have inboard fold-down design arm rests.
- ___ 23.2 3-point lap and shoulder belts.
- ___ 23.3 Dual entry grab handles.
- ___ 23.4 Dual door mounted armrests or seat mounted fold-down design.
- ___ 23.5 Dual sun visors.
- ___ 23.6 Headliner and insulated rubber floor mat.
- ___ 23.7 Storage pocket in drivers door or overhead console.
- ___ 23.8 AM-FM radio with weather band and two speakers.
- ___ 23.9 Highest available output heater/defroster with replaceable fresh air filter.
- ___ 23.10 Tinted safety glass on all windows.
- ___ 23.11 Deluxe insulation package.
- ___ 23.12 Power drivers and passenger side windows with functional vent windows.
- ___ 23.13 Sliding rear glass if available from manufacturer.
- ___ 23.14 Tilt steering wheel.

24. CONTROLS AND INSTRUMENTS

- ___ 24.1 Key locking starter switch.
- ___ 24.2 Head, park and dome light switch.
- ___ 24.3 High beam indicator.
- ___ 24.4 Power divider lock indicator.
- ___ 24.5 Differential lock indicator.
- ___ 24.6 **Self canceling** turn signal switch with integral dimmer switch.
- ___ 24.7 Gauge cluster to be English with electronic speedometer.
 - ___ 24.7.1 Odometer to display miles, trip miles, engine hours and trip hours. (engine hours to be non-resettable)
- ___ 24.8 Visual and audible warning system as follows:
 - ___ 24.8.1 Low engine oil pressure.
 - ___ 24.8.2 High engine coolant temperature.
 - ___ 24.8.3 High transmission temperature.
 - ___ 24.8.4 Low air pressure.
- ___ 24.9 Gauge cluster as follows:
 - ___ 24.9.1 Engine oil pressure.
 - ___ 24.9.2 Engine coolant temperature.
 - ___ 24.9.3 Transmission temperature.
 - ___ 24.9.4 Fuel level.
 - ___ 24.9.5 Voltmeter.
 - ___ 24.9.6 Tachometer.
 - ___ 24.9.7 Air pressures, air 1 and air 2.

Meets Specs.

Yes No**25. WINDSHIELD WIPERS**

- ___ 25.1 Two speed electric windshield wipers with intermittent feature and electric washers.
- ___ 25.1.1 Wiper blades to be Arctic Winter type.
- ___ 25.1.2 Washer nozzles will be located on the wiper arms.

26. MIRRORS

- ___ 26.1 Door mounted heated, stainless steel or power coated west coast mirrors with heated auxiliary convex mirror.

27. LIGHTS

- ___ 27.1 Vehicle shall be equipped with all required and manufactures recommended light to comply with FMVSS 108 and ICC requirements.
- ___ 27.2 Halogen sealed beam headlights with OEM daytime running lights.
- ___ 27.3 LED clearance and marker lights.
- ___ 27.4 Hazard flashers.
- ___ 27.5 Solid state 16 lamp flasher.
- ___ 27.6 Door activated interior dome light.

28. MISCELLANEOUS EQUIPMENT AND MANUALS

- ___ 28.1 **Delete front bumper.**
- ___ 28.2 Manufacturers standard air horn.
- ___ 28.3 Manufacturers standard electric horn.
- ___ 28.4 Electronic backup alarm.(Preco factory model)
- ___ 28.5 Two front tow hooks and two rear tow hooks. (Frame mounted)
- ___ 28.6 Front mud flaps.
- ___ 28.7 Removable winter front.
- ___ 28.8 One (1) complete service and overhaul manual, CD or on-line access will be provided.
- ___ 28.9 One (1) complete operators manual for each unit provided.

29. PAINT AND RUSTPROOF/UNDERCOAT

- ___ 29.1 Basecoat/Clearcoat Polyurethane enamel paint.
- ___ 29.2 Color shall be one solid color selected from manufacturers standard color chart provided with bid proposal.
- ___ 29.3 Interior shall be the lightest standard color available.
- ___ 29.4 Cab will be rustproofed/undercoated using "Ming Auto Beauty" or equal products and application process.

30. TRUCK WARRANTY AND CONDITIONS

- ___ 30.1 The basic standard and extended warranties **MUST** be provided by the original equipment manufacturer.
- ___ 30.1.1 Coverage provided through independent warranty companies "aftermarket warranties" are not acceptable.
- ___ 30.2 Basic vehicle coverage 48 months/50,000 miles.
- ___ 30.3 Engine and engine electronics 48 months/50,000 miles.
- ___ 30.4 Allison transmission and transmission electronics 24 months/50,000 miles.
- ___ 30.5 Drive train and major components (front axle, rear axle, suspension, frame mount brackets and crossmembers, drive line) 48 months/50,000 miles.
- ___ 30.6 Frame 60 months/100,000 miles.
- ___ 30.7 Cab corrosion and structure 60 months/unlimited miles.
- ___ 30.8 Towing 36 months/50,000 miles.
- ___ 30.9 Complete details of the warranty you are providing must accompany your bid.

31. SEE SECTION II – 13' DUMP BODY-HYDRAULIC SYSTEM-LIGHTING
SYSTEM-SNOW PLOW HITCH (STREET MAINTENANCE)

(STREET MAINTENANCE)

1. MODEL

- 1.1.1 Bodies are to be Western style crossmemberless design.

Meets Specs
Yes No

2. BODY

- | | | |
|-----|--------|---|
| — — | 2.1 | 9.5 cubic yard capacity, struck <u>minimum</u> . (less side boards) |
| — — | 2.2 | Length 13 foot. |
| — — | 2.3 | Width 84 inches (inside). |
| — — | 2.4 | Side height 34 to 36 inches. |
| — — | 2.5 | Head height to be manufacturer's recommended for body/hoist combination. |
| — — | 2.6 | Minimum 10 inch 25.0 #/ft. structural I-beam long sills. |
| — — | 2.7 | 3/16 inch AR400 steel floor with radius edges. |
| — — | 2.8 | 3/16 inch AR400 steel sides with outward sloped seamless horizontal bracing at mid point. |
| — — | 2.9 | 3/16 inch AR400 steel front panel with reinforced top edge and horizontal brace. |
| — — | 2.10 | Fully boxed outward sloped top rail. |
| — — | 2.11 | Outward sloped rub (bottom) rail. |
| — — | 2.12 | 7 gauge A1011 Grade 50 steel, front corner posts and full depth rear corner posts. |
| — — | 2.13 | Structural channel rear apron full depth to long sills and full width of box, fully attached to rear corner posts and floor. |
| — — | 2.14 | 2-1/2" side board pockets with 8 inch 11.5 #/ft. structural channel side boards. |
| — — | 2.15 | Full length walk rail shall be installed on both sides of dump body. |
| — — | 2.15.1 | Walk rail shall be constructed of step grip perforated metal channel. (Buyers #SG1501048 3 row ladder rung) |
| — — | 2.15.2 | Walk rail shall be installed at mid point between rub rail and horizontal bracing flush with front and rear corner posts. |
| — — | 2.16 | Full length tarp rail shall be installed on both sides of dump body. |
| — — | 2.16.1 | Tarp rail shall be constructed of 1/4 x 2 inch steel flat. |
| — — | 2.16.2 | Tarp rail shall be installed at mid point between top rail and horizontal bracing. |
| — — | 2.17 | Steel construction, stow-a-way design access ladders shall be installed on right and left side of body next to front corner post. |
| — — | 2.17.1 | Ladder shall be approximately 20 inches wide. |
| — — | 2.17.2 | Pull-out section to be approximately 30 inches long and designed to angle out 10 inches at the bottom, in fold down position with step grip ladder rungs. |
| — — | 2.17.3 | 20 x 2.5 inch grab handle constructed of 3/4 inch rolled round installed vertically on front corner post to assist in the use of ladder. |
| — — | 2.18 | "MultiGuard" actuated electric vibrator, securely installed between long sills with reinforcement as required. (Tendaire Model # 3500 with automatic timer) |
| — — | 2.19 | Body light provisions will be for clearance and side markers only. |
| — — | 2.19.1 | Rear oval light provisions <u>will not be included</u> . |
| — — | 2.19.2 | Stop/tail/turn, backup and emergency lighting provisions are part of the Whelen DOT lighting package specified. |

Meets Specs

Yes No**3. TAILGATE**

- | | | |
|-----|-----|--|
| — — | 3.1 | 3/16" AR400 steel tailgate with lifting loop. |
| — — | 3.2 | Fully boxed with horizontal brace and two triple boxed vertical reinforcements - six panel design. |
| — — | 3.3 | Tailgate height 44 inches. |
| — — | 3.4 | Double-acting upper hinged, lower lever type hooks, with 3/8" alloy spreading chains and heavy gauge flexo sleeving. |
| — — | 3.5 | Upper and lower dog-leg slotted chain keepers. |
| — — | 3.6 | Top and bottom hinge pins shall be 1-1/4" diameter cold drawn round stock with positive type lock mechanism. |
| — — | 3.7 | Top pins will be removable, have grease zerks, stop rotation mechanism and safety lock hardware. |
| — — | 3.8 | "MultiGuard" actuated electric over pneumatic tailgate release. |

4. CAB SHIELD WITH INTEGRAL TARP SYSTEM

- | | | |
|-----|-------|---|
| — — | 4.1 | 89 inches wide, fully boxed leading edge, designed to be structurally sound without the need for extended side gussets.(to accommodate 90° exhaust turnout) |
| — — | 4.2 | 7 gauge A1011 Grade 50 steel construction. |
| — — | 4.3 | ½ cab shield to project 24 inches out from body head. |
| — — | 4.4 | 7" flat front or leading edge to accommodate installation of headboard LED lights. |
| — — | 4.5 | 7" side plates to accommodate integral tarp assembly. |
| — — | 4.6 | Shield to be installed 6 inches above cab roof. |
| — — | 4.7 | Horizontal design with minimal slope to body. |
| — — | 4.8 | Shield to be securely welded to the body head. |
| — — | 4.9 | Cab shield will incorporate a tarp system as follows: |
| — — | 4.9.1 | Aero Model Easy Cover 500 Series design. |
| — — | 4.9.2 | Full open box interior with tarp in roll-up position. |
| — — | 4.9.3 | 12 Volt electric motor with right angle gear drive. |
| — — | 4.9.4 | 85" wide polyester mesh tarp with gravity type "Weight-Down" system. |
| — — | 4.9.5 | Side mount "Power-Pack" fully encased spring assemblies. |
| — — | 4.9.6 | Polished aluminum side arms, angled approximately 26° to allow arms to be recessed in roll-up position. |
| — — | 4.9.7 | Length to be adequate to properly cover the entire body in the roll-out position. |
| — — | 4.9.8 | All wiring and system protection devices will be in accordance with Aero installation recommendations. |
| — — | 4.9.9 | "MultiGuard" actuated. |

5. HOIST

- | | | |
|-----|------|---|
| — — | 5.1 | Underbody double acting hydraulic with full sub-frame. |
| — — | 5.2 | Double equalizing arm or roller combo design. |
| — — | 5.3 | N.T.E.A. class 90 <u>minimum</u> (as published in N.T.E.A. hoist chart) |
| — — | 5.4 | Lifting capacity 29 ton <u>minimum</u> . |
| — — | 5.5 | Dump angle 50 degrees <u>minimum</u> . |
| — — | 5.6 | Mounting height 17 inches <u>maximum</u> . |
| — — | 5.7 | 6" x 8" x ½" structural angle rear hinges with 2" stainless steel pins connecting through 2-1/2" blocks with replaceable greaseless composite bushings. |
| — — | 5.8 | Street and curb side fold down design body props.(pin type not acceptable) |
| — — | 5.9 | Body raise indicator light in "MultiGuard" control stick panel. |
| — — | 5.10 | Critical hoist pivot points will have replaceable greaseless composite bushings. |
| — — | 5.11 | "MultiGuard " actuated. |

Meets Specs.
Yes No

6. LIGHTING SYSTEM

- | | | |
|-----|--------|--|
| — — | 6.1 | Lighting must meet F.M.V.S.S. 108. |
| — — | 6.2 | All clearance, side marker and rear identification markers required to meet 108 Standards to be grommet mounted LED. |
| — — | 6.3 | Existing stop/tail and turn lights shall be removed. |
| — — | 6.4 | All wiring provided and installed by the final assembler will be split flex loomed and securely attached using insulated stainless steel cable/wire clamps and stainless steel hardware. |
| — — | 6.4.1 | Wiring harness for all 108 lighting to be factory assembled one piece design with sealed connectors. |
| — — | 6.4.2 | <u>Splicing into chassis wiring is not permitted.</u> |
| — — | 6.5 | Whelen Model DOT-LED (part #27T04MPS) lighting system. |
| — — | 6.6 | Two (2) each 180° Headboard LED flashing light assemblies with branch guard as follows: |
| — — | 6.6.1 | Light assemblies installed on the front or leading edge of the cab shield with the outside edge of the light assembly 12 inches in from the outside edge of the cab shield on both left and right sides. |
| — — | 6.6.2 | Light assemblies will be centered top to bottom on leading or front edge of cab shield. |
| — — | 6.6.3 | Headboard assemblies will have clear lenses with amber/blue Linear LED's. |
| — — | 6.7 | Two (2) each 400 Series rear light assemblies as follows: |
| — — | 6.7.1 | Stainless steel angle housing. |
| — — | 6.7.2 | Installed on the outside of the rear corner posts. |
| — — | 6.7.3 | Linear LED amber/blue flashing lights with TIR3 side lights. |
| — — | 6.7.4 | LED red stop/tail/turn lights. |
| — — | 6.7.5 | LED backup lights. |
| — — | 6.8 | Heavy duty cabling as follows: |
| — — | 6.8.1 | 12" protective flex tube and coupling at each light head. |
| — — | 6.8.2 | TRP oil resistant, tin coated pure copper strand cables. |
| — — | 6.8.3 | "Deutsch" waterproof connectors. |
| — — | 6.8.4 | Cabling lengths as required for flashing LED lights. |
| — — | 6.9 | Flash patterns as follows: |
| — — | 6.9.1 | Both front lights to flash simultaneously. |
| — — | 6.9.2 | Both rear lights to flash simultaneously. |
| — — | 6.9.3 | Front and rear lights to flash in an alternating pattern to each other. |
| — — | 6.9.4 | All flashing lights will be "double flash" design. |
| — — | 6.10 | Flasher and junction box will be installed on the back side of the "CircuitGuard" power distribution center housing assembly. |
| — — | 6.11 | Hood mounted (cross-bar) plow light assembly as follows: |
| — — | 6.11.1 | Grote #64261-4 PER-LUX snow plow lights. |
| — — | 6.11.2 | Custom aluminum construction one piece plow light mount bracket.(J-Craft or equal) |
| — — | 6.11.3 | Independent height adjustment for right and left side plow lights. |
| — — | 6.11.4 | Bottom of plow light to be approximately the same as the hood height in the lowest position setting. |
| — — | 6.11.5 | Width of plow lights to be just outside the vertical plane of the hood to allow for height adjustment tubes. |
| — — | 6.11.6 | Light bracket will not interfere with hood access panel(s) or stationary grill opening in any manner. |
| — — | 6.11.7 | Factory dimmer switch must be functional for both truck and plow lights. |
| — — | 6.11.8 | Activation of plow lights will cancel truck headlights. |

Meets Specs.

Yes No

— —	6.12	Lighting system will be switched as follows and controlled through the “MultiGuard” system:
— —	6.12.1	Front flashing amber lights.
— —	6.12.2	Rear flashing amber lights.
— —	6.12.3	Front and rear flashing blue lights.
— —	6.12.4	Low intensity flashing lights.
— —	6.12.5	Plow lights.
7. CENTRAL HYDRAULIC SYSTEM		
— —	7.1	Basic design as follows:
— —	7.1.1	Transmission PTO driven, load sensing type.
— —	7.1.2	Capable of actuating and controlling motors and actuators as detailed.
— —	7.1.3	System will utilize closed-center valves, load sensing pressure compensating axial piston pump and a reservoir/valve enclosure.
— —	7.1.4	All hydraulic components will be installed in a neat and professional manner conforming to current engineering and manufacturing practices.
— —	7.2	Hydraulic pump as follows:
— —	7.2.1	Rexroth Model A10V071DFR/31R-PKC92N00.
— —	7.2.2	Compensator with separate adjustments for main and stand-by pressures.
— —	7.2.3	System pressure to be set at hoist manufacturers recommended setting.
— —	7.2.4	Stand-by pressure to be approximately 300 psi.
— —	7.2.5	Pump to be left side frame mounted directly across from the reservoir suction port to allow for the shortest possible suction line routing.
— —	7.3	Hydraulic pump drive as follows:
— —	7.3.1	Chelsea Model 277 PTO.
— —	7.3.2	Mounting position to be left side (8 o'clock).
— —	7.3.3	Drive ratio to be approximately 1 to 1 with engine RPM.
— —	7.3.4	Power shift, actuated through “MultiGuard” system.
— —	7.3.5	Pressure lubricated, designed for extended road speed operation.
— —	7.3.6	Spicer 1310 driveline components.
— —	7.3.7	Slip yoke design shaft with greasable yoke and u-joints.
— —	7.3.8	All shaft locking devices to be wire tied.
— —	7.3.9	Shaft to be professionally balanced for smooth operation.
— —	7.4	Hydraulic valves as follows:
— —	7.4.1	Rexroth MP-18 valves.
— —	7.4.2	Closed center, sectional type load sensing.
— —	7.4.3	Valves will be individually pressure and flow compensated.
— —	7.4.4	Individual sections for each function.
— —	7.4.5	All sections will be fully proportional electric with manual overrides incorporated into activation solenoids.
— —	7.4.6	Mechanical/adjustable stroke limiters on both plow and hoist valves.
— —	7.4.7	Plow raise/lower section: 3-way directional valve with a 7 g.p.m. spool and hollow compensator flow adjustment.
— —	7.4.8	Plow angle right/left section: 4-way directional valve with a 7 g.p.m. spool and hollow compensator flow adjustment and adjustable port relief to A and B ports set at 1,800 psi.
— —	7.4.9	Hoist raise/lower section: 4-way directional valve with a 35 g.p.m. spool and hoist down adjustable port relief set at 500 psi.

Meets Specs.

Yes No

— —	7.4.10	Conveyor drive section: 2-way directional valve with a 15 g.p.m. spool.
— —	7.4.11	Spinner drive section: 2-way directional valve with a 7 g.p.m. spool.
— —	7.4.12	A 5,000 psi glycerin filled gauge will read system pressure at the port and be installed on and plumbed to the front side of the valve enclosure.
— —	7.4.13	Valves will be actuated through a combination of stick controls and GL400 spreader control located in the "MulitGuard" system.
— —	7.5	Reservoir/Valve Enclosure as follows:
— —	7.5.1	Component Technology "ServiceGuard" series.
— —	7.5.2	Stainless steel construction.
— —	7.5.3	30 gallon capacity.
— —	7.5.4	Screened filler neck.
— —	7.5.5	Fluid level/temperature gauge.
— —	7.5.6	Electric low fluid indicator in "MultiGuard" control stick panel.
— —	7.5.7	10 micron in-tank filter.
— —	7.5.8	By-pass and condition gauge.
— —	7.5.9	Service shut off valve.
— —	7.5.10	Bolt-on top and side valve access panels with form fitted gaskets.
— —	7.5.11	Left side truck frame mounted directly behind cab.
— —	7.6	Hydraulic hoses and fittings as follows:
— —	7.6.1	All pressure hoses including signal sense line to pump will have 37 ⁰ JIC swivel fittings on each end and be a minimum SAE 100- R2 rating.
— —	7.6.2	Return lines and case drain will have 37 ⁰ JIC swivel fittings on both ends and be a minimum SAE 100-R1 rating.
— —	7.6.3	Suction line will be a minimum SAE 100-R4 rated, 2" I.D. connected with heavy duty banding straps.
— —	7.6.4	Suction line will utilize a 90 ⁰ fitting directly off of the reservoir to facilitate a straight suction line to pump.(see 7.2.5)
— —	7.6.5	Pressure hoses from valving to plow lift cylinder and reversing cushion valve will be ½" I.D.
— —	7.6.6	Snow plow cushion valve with Aeroquip FD45 series ½" stainless steel couplers will be provided and installed on the left (street side) of the plow hitch in a position that allows for ease of plow coupling.
— —	7.6.7	Spinner and conveyor pressure fittings will be capped outside of the valve enclosure for future installation of a material spreader.
— —	7.6.8	A 3/4" capped 37 ⁰ JIC male return circuit fitting will be provided for future installation of a material spreader.
— —	7.6.9	Pressure hoses to hoist cylinder will be sized per hoist manufacturers recommendation.
— —	7.6.10	Hoses will be routed in a neat and professional manner and secured with clamps or ties not exceeding 24 inches between holding devices.

8. OPERATOR CONTROL SYSTEM

— —	8.1	Center floor mounted armrest design control console as follows:
— —	8.1.1	Component Technology "MultiGuard" series.
— —	8.1.2	Integral console controlling all hydraulic functions, spreader functions, auxiliary lighting and warning indicators.
— —	8.1.3	Armrest adjustable for height and position with stow capability.
— —	8.1.3.1	Base mounting plate and arm support tube location will be determined at the time of order.

Meets Specs.

Yes No

— —	8.1.4	Control of snow plow will be through a dual-axis fully proportional joy stick installed in the left position.
— —	8.1.5	Control of the hoist will be through a single-axis fully proportional stick installed in the right position.
— —	8.1.6	Special control stick provisions:
— —	8.1.6.1	Plow control must provide an electronic time activated float function and top mounted material spreader "pause" activation button.
— —	8.1.6.2	Hoist control must provide a push button dead-man switch.
— —	8.1.7	Plow functions as follows:
— —	8.1.7.1	Forward movement = Plow Lower.
— —	8.1.7.2	Rearward movement = Plow Raise.
— —	8.1.7.3	Left movement = Plow Angle Left.
— —	8.1.7.4	Right movement = Plow Angle Right.
— —	8.1.8	Hoist functions as follows:
— —	8.1.8.1	Forward movement = Hoist Lower.
— —	8.1.8.2	Rearward movement = Hoist Raise.
— —	8.1.9	Harness for snow plow and hoist controls will be TPE harness system.
— —	8.1.10	Material spreader controls as follows:
— —	8.1.10.1	Component Technology "GL400" series.
— —	8.1.10.2	Designed for closed-loop operation using a White motor integral conveyor speed sensor with M12 female connector and Allison transmission ground speed provision.
— —	8.1.10.3	Auger sensor harness will be adequate length for future installation of a in-box material spreader, coiled and wire tied to the valve enclosure.
— —	8.1.10.4	Remote "pause" provision will be provided and activated through the "MultiGuard" system.
— —	8.1.10.5	Harness for material spreader will be TPE harness system.
— —	8.1.11	Upper left switch bay as follows:
— —	8.1.11.1	Component Technology "TouchGuard" series.
— —	8.1.11.2	Switch #1: Front amber. (on/off)
— —	8.1.11.3	Switch #2: Front/Rear blue.(on/off)
— —	8.1.11.4	Switch #3: Plow lights.(on/off)
— —	8.1.11.5	Switch #4: Rear amber.(on/off)
— —	8.1.11.6	Switch #5: Night amber/blue.(on/off)
— —	8.1.11.7	Switch #6: PTO.(on/off)
— —	8.1.11.8	All switches will have backlighting, activation indicator and be labeled as specified.
— —	8.1.12	Upper right switch bay as follows:
— —	8.1.12.1	Component Technology "Sprague" switch panel.
— —	8.1.12.2	Switch #1: Tailgate Open----Tailgate Closed.(on/off)
— —	8.1.12.3	Switch #2: Tarp Open----Tarp Closed. (momentary/off/momentary)
— —	8.1.12.4	Switch #3: Box vibrator.(momentary)
— —	8.1.12.5	All switches will have backlighting, activation indicator and be labeled as specified.

Meets Specs.

Yes No

- | | | |
|-----|-------------|---|
| — — | 8.1.13 | Control stick panel indicator lights as follows: |
| — — | 8.1.13.1 | Front left corner: Low Oil.(red) |
| — — | 8.1.13.2 | Front right corner: Body Up.(red) |
| — — | 8.1.13.3 | Back left corner: Spreader Pause.(blue) |
| — — | 8.1.13.4 | Back right corner: Plow Float.(blue) |
| — — | 8.1.13.5 | All indicators will have backlighting and be labeled as specified. |
| — — | 8.1.14 | Power distribution center as follows: |
| — — | 8.1.14.1 | Component technology "CircuitGuard" series. |
| — — | 8.1.14.2 | Power distribution center integral with "MultiGuard" system providing a centralized location for wiring. |
| — — | 8.1.14.3 | Field replaceable socketed relays. |
| — — | 8.1.14.4 | LED indicator for diagnostics and troubleshooting. |
| — — | 8.1.14.5 | Corrosion resistant housing with easy accessible entry panel. |
| — — | 8.1.14.6 | Main 12 volt feed to "CircuitGuard" power distribution center will be protected by an 80 amp manual resetting water proof circuit breaker installed on the firewall next to the chassis power source terminals. |
| — — | 8.1.14.7 | Power to the breaker will be through the chassis power source positive terminal. |
| — — | 8.1.14.8 | Ground to the "CircuitGuard" power distribution center will be through the chassis power source negative terminal. |
| — — | 8.1.14.9 | Power feed and ground wires to the "CircuitGuard" power distribution center will be 6 gauge. |
| — — | 8.1.14.10 | All circuits will be run/accessory ignition switch powered through integral "CircuitGuard" relay. |
| — — | 8.1.14.10.1 | Relay activation wire required. |
| — — | 8.1.14.11 | A master "CircuitGuard" power distribution center on/off switch will be installed on the top of the "CircuitGuard" housing. |
| — — | 8.2 | A complete wiring diagram, specific model information and parts breakdown for the entire "MultiGuard/CircuitGuard" system will be provided to the final assembler to insure proper installation. |
| — — | 8.2.1 | All documents described in 8.2 will be provided to the City at time of delivery. |

9. ELECTRIC RELAY BANK

- | | | |
|-----|-------|--|
| — — | 9.1 | Electric relay bank to power the tarp and box vibrator as follows: |
| — — | 9.1.1 | One (1) "Aero" #1067 motor reversing tarp relay. |
| — — | 9.1.2 | One (1) box vibrator relay. |
| — — | 9.1.3 | Relay bank to be installed in a NEMA 4 rated non-metallic enclosure with screw secured front access door or panel. |
| — — | 9.1.4 | Enclosure will be right side frame mounted in the general area of the battery box. |
| — — | 9.1.5 | All wiring entering and exiting the enclosure will utilize liquid tight relief fittings "Sealcon" or equal. |
| — — | 9.1.6 | All activation and power wiring for the tarp and box vibrator will be manufacturers recommended gauge. |

Meets Specs.

Yes No**10. SNOW PLOW HITCH**

- — 10.1 Low profile plow hitch with quick link as follows:
- — 10.1.1 Flink Model PF91QL2 or Monroe PF91QL1 or equal design.
- — 10.1.2 Heavy-duty, tailored, non-folding low profile design with minimum ½" steel side cheek plates.
- — 10.1.3 Hitch will be designed and manufactured specifically for the truck provided.
- — 10.1.4 Frame extension will be shortened to allow the plow hitch to be installed as close to the front of the truck as possible and still maintain the maximum strength and integrity.
- — 10.1.5 All thrust loads must be transferred to the chassis frame not to the front axle or spring assemblies.
- — 10.1.6 Quick link, positive lock with plow attachment point 15 inches above the ground.
- — 10.1.7 Lowest point will allow a minimum of 10 inches of ground clearance.
- — 10.1.8 The hitch **must** be designed and installed to allow the tilt-hood with stationary grill to fully open without contacting any portion of the hitch or lift arm.
- — 10.1.9 The hitch will be installed utilizing grade 8 bolts and lock nuts.
- — 10.1.10 Minimum 3 inch bore 10 inch stroke single acting hydraulic lift cylinder with square tube design adjustable lift arm.
- — 10.1.10.1 The lift arm will be pin adjustable to lengths of approximately 30, 35 and 40 inches when measured from the arm pivot point.
- — 10.1.10.2 Lift arm will be designed to accept 3/8" lift chains.
- — 10.1.11 If removed the factory front tow hooks are to be reinstalled in a similar location following hitch installation.

11. PUP HITCH

- — 11.1 3/4" steel pull plate as follows: (J-Craft H.D. or equal)
- — 11.1.1 Holland PH410RN11 pintle hook or equal.
- — 11.1.2 Safety chain "D" rings.
- — 11.1.3 6 pole electrical socket.
- — 11.1.4 Trailer brake air lines with downward positioned gladhands.
- — 11.1.5 Vertical tongue weight 18,000 lbs.
- — 11.1.6 Horizontal tongue weight 90,000 lbs.
- — 11.1.7 Latching tensile strength 20,000 lbs.
- — 11.1.8 Rated capacity 90,000 lbs.
- — 11.1.9 Pintle hitch height approximately 21" from ground level.
- — 11.1.10 If removed, the factory rear tow hooks are to be reinstalled in a similar location following hitch installation.

12. MISCELLANEOUS EQUIPMENT

- — 12.1 Spray Control Systems, Minimizer M500 black poly fenders with stainless steel mount brackets.
- — 12.1.1 Fenders will be installed in a manner allowing for tire chain clearance.
- — 12.2 Non-free swinging rear mud flaps will be installed off of body apron.

13. GENERAL INFORMATION

- — 13.1 One (1) parts book shall be furnished.
- — 13.2 Body to be securely mounted in a position to give approximately 4 inches clearance between the head of the body and rear of cab.
- — 13.3 All welds are to be chipped, brushed and painted with black enamel.
- — 13.4 A proper GVW certification sticker will be affixed.

Meets Specs.

Yes No**14. BODY AND EQUIPMENT WARRANTY REQUIREMENTS**

- — 14.1 Manufacture's standard warranty shall apply.
- — 14.1.1 Please provide information concerning the Terms and Conditions of warranty with your bid proposal.

15. BODY PREPARATION-PAINT-UNDERCOATING

- — 15.1 Items to be painted to match color code of cab:
- — 15.1.1 Full exterior of body to include both sides of the tailgate.
- — 15.1.2 Inside of body, not including the floor.
- — 15.2 Items to be painted black:
- — 15.2.1 Underside of the body.
- — 15.2.2 Inside of rear corner posts.(as space permits)
- — 15.2.3 Hoist frame.
- — 15.2.4 Pup hitch.
- — 15.2.5 Side boards
- — 15.3 Metal will be completely primed with a rust inhibitive primer/sealer that is recommended by and compatible with the finish coat manufacture.
- — 15.4 Primer/sealer will be applied in accordance with the Product Data Sheet.
- — 15.5 Finish coat to be Sherwin Williams SUNFIRE acrylic urethane or equal.
- — 15.6 Finish coat will be applied in accordance with the Product Data Sheet.
- — 15.7 Finish must be smooth, shiny, free of runs, oversprays and other defects.
- — 15.8 Entire system will have a minimum of 4.0 mil dry film thickness.
- — 15.9 Underside of body will be undercoated using "Ming Auto Beauty" or equal products and application process.

16. DELIVERY

- — 16.1 The complete unit will be delivered to Fleet Services Garage, 901 North 6th. Street, Lincoln, NE. complete and ready for operation.
- — 16.2 The original manufacturer's statement of origin, a service authorization card, and properly executed service and warranty policy will accompany the vehicle when delivered.
- — 16.3 All manuals and miscellaneous equipment as described in these specifications will be provided at the time of delivery.
- — 16.4 Pre-delivery inspection will be properly performed prior to delivery with any lack of pre-delivery service resulting in rejection until the unit has been properly serviced.

17. OPTIONS

- — 17.1 Delete Component Technology GL400 Material Spreader Control Box and replace with removable panel cover.
- — 17.1.1 All other Material Spreader related items will be provided and installed as specified.
- — 17.2 Add factory installed air conditioning with APAds or equal protection and diagnostic system.

EQUIPMENT SPECIFICATIONS
SECTION I
52,000 GVWR DUMP/PLOW TRUCK
(UTILITIES)

1. INTENT AND GENERAL INFORMATION

- 1.1 It is the intent of this specification to describe a 52,000 GVWR DUMP/PLOW TRUCK to be purchased and delivered as a complete unit ready for operation, with all equipment indicated provided and installed.
- 1.2 This bid includes the truck cab/chassis, dump body, hydraulics, lighting package, snow plow hitch (less plow) and all installation and delivery costs.
- 1.3 The successful bidder will **NOT** be responsible for providing or installing snow plows as part of this bid.
- 1.4 The specification is generally a two section document with the first section describing the truck cab/chassis and the second section describing the dump body and associated equipment.
- 1.5 All bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Licensing Act. Nebraska revised Statutes, Chapter 60, Article 14.
 - 1.5.1 The licensing requirements must be met at the time of the bid opening for bids to be valid.
- 1.6 The equipment furnished under this specification be new and of the latest improved model in current production as offered to the commercial trade.
- 1.7 All equipment required to for satisfactory operation will be provided whether or not they are specifically addressed in this specification.
- 1.8 Trucks delivered must comply with all current State and Federal safety regulations.
- 1.9 Exceptions to any part of this bid document will be clearly noted by Item # on your company letter head and signed by the appropriate authority.

2. INSURANCE

- 2.1 The successful bidder will be required to fully insure all trucks and equipment, for all perils, until delivery to and acceptance by the City of Lincoln, Fleet Services, 901 North 6th, Street, Lincoln, NE.
- 2.2 Proof of Insurance must be furnished within five (5) days after notification of award to City/County Purchasing Division at the address on Notice to Bidders.
- 2.3 The bidder and all sub-contractors are required to submit proof of Garage Keepers Insurance with their bid proposal.
- 2.4 The City of Lincoln assumes ownership at the time of actual delivery at Fleet Services Garage, 901 North 6th, Street, Lincoln, NE. and acceptance of completed unit.

3. APPLICATION

- 3.1 This truck will be used in a variety of applications to include on/off road hauling of earth, construction rubble, crushed rock and in snow plowing operations.
- 3.2 This application not only demands the truck act as the prime mover for the mounted equipment, but also utilized as the power source for the central hydraulic system through a transmission mounted power take off.
- 3.3 PTO and shaft drive hydraulic pump will be left side (8:00 O'clock transmission PTO location) mounted with hydraulic tank being left side outside frame mounted.
 - 3.3.1 To facilitate installation of the hydraulic system both the inside and outside of the left frame rail should be as clean as possible.

4. MODEL

- 4.1 The chassis furnished under these specifications shall be new 2006 or newer of the latest improved model in current production as offered to the commercial trade.
- 4.2 Example Model:
- 4.2.1 Sterling Acterra
- 4.2.2 International 7000 Series
- 4.2.3 Freightliner M2 106V
- 4.3 Examples listed are intended to show the type and class of chassis desired.
- 4.4 Bidders are cautioned to read the specifications carefully: the specifications may include special requirements not commonly offered by your standard equipment.
- 4.5 Do not assume your standard equipment meets all detailed specifications merely because it is listed above as an example.

Meet Specs.
Yes No

5. GVWR

- ___ 5.1 52,000 lbs. minimum.

6. CAB TO TRUNION AND BUMPER BACK OF CAB

- ___ 6.1 102 inch C/T.
- ___ 6.2 106 inch to 107 inch BBC.

7. ENGINE

- ___ 7.1 Engine shall be one of the following diesel engines:
- ___ 7.1.1 International DT-466
- ___ 7.1.2 Caterpillar C7
- ___ 7.2 Minimum 285 gross horse power and 800 lb. ft. torque.
- ___ 7.3 Minimum 7.0 liter.

8. ENGINE EQUIPMENT

- ___ 8.1 Heavy-duty single element air cleaner with in-cab control auxiliary under hood inlet (snow valve).
- ___ 8.2 Air cleaner mounted air filter restriction indicator.
- ___ 8.3 Manufacturer's recommended High Capacity cross flow extra cooling design radiator with surge tank.
- ___ 8.4 Peak "Final Charge" coolant with inhibitor, engine coolant to -35F.
- ___ 8.4.1 No exception on brand or type of coolant requested.
- ___ 8.5 Silicone or Gates Blue Stripe hose package to include radiator, heater and by-pass hoses.
- ___ 8.6 Spin on coolant filter (If recommended by engine manufacturer)
- ___ 8.7 Horton Drivemaster automatic on/off fan drive with normally closed temperature controls.
- ___ 8.8 Minimum 1000 watt 115/120 volt block heater with receptacle mounted under left-hand door.
- ___ 8.9 Alliance or Fleetguard fuel/water separator with thermostatically controlled electric heater.
- ___ 8.10 Thermal electric intake heater.
- ___ 8.11 Fuel system primer pump.
- ___ 8.12 Minimum 25 qt. engine oil change capacity.
- ___ 8.13 Spin on oil filter.
- ___ 8.14 Magnetic engine oil drain plug.
- ___ 8.15 Heavy duty starter motor with thermal over-crank protection.
- ___ 8.16 Key operated electric shut down.
- ___ 8.17 Electronic engine system diagnostics with cab mounted J1939 diagnostics port.
- ___ 8.18 Engine shall be capable of electronic interface with Allison RDS series transmissions.
- ___ 8.19 Electronic cruise control.
- ___ 8.20 Electronic push button throttle.

Meets Specs.

Yes No**9. EXHAUST SYSTEM**

- ___ 9.1 Right hand horizontal muffler with vertical tail pipe and tail pipe guard.
 ___ 9.2 Exhaust will be low height design with a 90° turnout for cab shield clearance.
 ___ 9.3 Exhaust system to be frame or cab mounted with no more than 3 inches of CT loss.

10. FUEL TANK

- ___ 10.1 Single 50 gallon left side fuel tank with two access steps.
 ___ 10.2 Tank to be under cab mounted not extending beyond back of cab.

11. TRANSMISSION

- ___ 11.1 Allison RDS 3500 wide ratio, 5-speed with PTO gear and less retarder.
 ___ 11.2 Third gear hold feature.
 ___ 11.3 Instrument panel mounted Allison Push-Button type shift control.
 ___ 11.4 Manufacturers recommended transmission cooler.
 ___ 11.5 Optimum transmission programming for this application.

12. FRONT AXLE AND STEERING

- ___ 12.1 I-Beam type 14,000 lb., front axle - Meritor MFS-14-143A.
 ___ 12.2 Set-back axle configuration.
 ___ 12.3 Single steering gear.
 ___ 12.4 Stemco High Performance "Guardian" unitized wet seal or equal design.
 ___ 12.5 Front end alignment will be performed following body and equipment installation with documentation provided at the time of delivery.

13. FRONT SUSPENSION

- ___ 13.1 Minimum 14,000 lb. capacity leaf springs.
 ___ 13.2 Heavy duty shock absorbers.

14. REAR AXLE

- ___ 14.1 Single speed, single reduction, 40,000 lb. rear axle Meritor RT-40-145 with magnetic drain plugs.
 ___ 14.2 Driver actuated inter-axle differential lock.
 ___ 14.3 Driver actuated differential lock on rear rear axle.(no-spin is not acceptable)
 ___ 14.3.1 Differential lock shall automatically unlock at 25 MPH.
 ___ 14.4 Axle ratio will be determined at the time the order is placed.

15. DRIVELINE

- ___ 15.1 Driveline will be heavy duty and factory balanced.
 ___ 15.2 17T Meritor or equal, main and interaxle drivelines with half round yokes.

16. REAR SUSPENSION

- ___ 16.1 40,000 lb. capacity rear suspension Hendrickson HMX-400.
 ___ 16.2 Mounting height and axle spacing shall be truck manufacturers recommended.

17. FRAME

- ___ 17.1 120,000 minimum PSI yield strength, single channel straight frame.
 ___ 17.2 Minimum 2,000,000 in lbs. R.B.M.
 ___ 17.3 Huck-bolt frame member fasteners.
 ___ 17.4 Minimum 12" integral front frame extension.

18. WHEELS

- ___ 18.1 Minimum 7,000 lb. hub piloted, 8.25X22.5, 10 hole ventilated disc, steel wheels.
 ___ 18.2 Wheel to be powder coated, white or grey in color.
 ___ 18.3 Nylon wafers or wheel guards on all wheels.

Meets Specs.

Yes No**19. TIRES**

- ___ 19.1 11R22.5 H highway tread front tires, Goodyear G159 or equal.
 ___ 19.2 11R22.5 H traction tread rear tires, Goodyear G167 or equal.
 ___ 19.3 One spare front wheel and tire, same brand and model as furnished on truck.
 ___ 19.4 Tires to be Firestone, Goodyear, Michelin, B.F. Goodrich, Bridgestone, UniRoyal,
 or General and shall carry the company name.

20. BRAKES

- ___ 20.1 Dual air system for straight truck application.
 ___ 20.2 Minimum 13.0 CFM air compressor, Bendix Tu-Flow 550 or equal.
 ___ 20.3 Sealed non-serviceable long stroke front brake chambers.
 ___ 20.4 16.5" x 5.0" S-cam front brakes.
 ___ 20.5 Severe service, fully epoxied 3030 long stroke, rear brake chambers.
 ___ 20.6 16.5" x 7" S-cam rear brakes.
 ___ 20.7 Full vehicle wheel ABS control system.
 ___ 20.8 Bendix AD-IP air dryer with heater right side outside frame mounted directly
 behind cab.
 ___ 20.9 Right frame rail mounted air tanks with heated auto drain valve on wet tank and
 manual drains with pull cables on primary and secondary.
 ___ 20.10 Front and rear brake dust shields.
 ___ 20.11 Front and rear automatic slack adjusters with stainless steel pins.
 ___ 20.12 Color coded nylon brake lines.
 ___ 20.13 Color coded yellow, park brake knob on instrument panel.
 ___ 20.14 Trailer brake package with hand control and tractor protection valve for straight
 truck and trailer application.
 ___ 20.15 Air lines extended to end of frame. (see item #11 of body specifications)

21. ELECTRICAL SYSTEM

- ___ 21.1 12 Volt
 ___ 21.2 Minimum two (2) each heavy duty 12 volt maintenance free batteries with a total
 1850 CCA capacity.
 ___ 21.3 Battery box, right side frame or under cab mounted.
 ___ 21.4 Remote jump start terminals.
 ___ 21.5 Delco 22-SI 130 amp capacity alternator.
 ___ 21.6 Circuit breaker protection.
 ___ 21.7 Color coded and protected wiring system.
 ___ 21.8 Power source terminals as follows:
 ___ 21.8.1 Two (2) stud type terminals on the firewall.
 ___ 21.8.2 Negative terminal to frame rail.
 ___ 21.8.3 Positive terminal to starter.
 ___ 21.8.4 Minimum 6 gauge wire.
 ___ 21.9 Inside cab run/accessory relay activation terminal.
 ___ 21.10 Chassis manufacture must provide all wiring required by the final assembler for
 installation of lighting described in the body and equipment specifications.
 ___ 21.11 The final assembler will not be permitted to splice into any chassis wiring.

22. CAB

- ___ 22.1 Fully enclosed safety-type conventional cab with medium trim package and rear
 cab air suspension.
 ___ 22.2 Minimum 98 inches from grade to top of cab.
 ___ 22.3 Cab to have a minimum of 72 inches of shoulder room per specification sheet.
 ___ 22.4 Cab to have a minimum of 56 inches floor to headliner height.
 ___ 22.4.1 Raised or bubble roof is not acceptable.
 ___ 22.5 Tilt-forward fiberglass hood and stationary grill.
 ___ 22.6 Hood access panel(s) to allow access to engine compartment without tilting hood.

Meets Specs.

Yes No**23. CAB EQUIPMENT**

- ___ 23.1 High back vinyl covered air suspension drivers and passenger seats.
- ___ 23.1.1 "National 2000 Series" or "Bostrom 915"
- ___ 23.1.2 Seats to be the lightest standard color available.
- ___ 23.1.3 Both drivers and passenger seats will be fully adjustable for position and be complete with air adjustable lumbar support.
- ___ 23.1.4 Both drivers and passenger seats will have inboard fold-down design arm rests.
- ___ 23.2 3-point lap and shoulder belts.
- ___ 23.3 Dual entry grab handles.
- ___ 23.4 Dual door mounted armrests or seat mounted fold-down design.
- ___ 23.5 Dual sun visors.
- ___ 23.6 Headliner and insulated rubber floor mat.
- ___ 23.7 Storage pocket in drivers door or overhead console.
- ___ 23.8 AM-FM radio with weather band and two speakers.
- ___ 23.9 Highest available output heater/defroster with replaceable fresh air filter.
- ___ 23.10 Tinted safety glass on all windows.
- ___ 23.11 Deluxe insulation package.
- ___ 23.12 Power drivers and passenger side windows with functional vent windows.
- ___ 23.13 Sliding rear glass if available from manufacturer.
- ___ 23.14 Tilt steering wheel.

24. CONTROLS AND INSTRUMENTS

- ___ 24.1 Key locking starter switch.
- ___ 24.2 Head, park and dome light switch.
- ___ 24.3 High beam indicator.
- ___ 24.4 Power divider lock indicator.
- ___ 24.5 Differential lock indicator.
- ___ 24.6 **Self canceling** turn signal switch with integral dimmer switch.
- ___ 24.7 Gauge cluster to be English with electronic speedometer.
- ___ 24.7.1 Odometer to display miles, trip miles, engine hours and trip hours.
(engine hours to be non-resettable)
- ___ 24.8 Visual and audible warning system as follows:
 - ___ 24.8.1 Low engine oil pressure.
 - ___ 24.8.2 High engine coolant temperature.
 - ___ 24.8.3 High transmission temperature.
 - ___ 24.8.4 Low air pressure.
- ___ 24.9 Gauge cluster as follows:
 - ___ 24.9.1 Engine oil pressure.
 - ___ 24.9.2 Engine coolant temperature.
 - ___ 24.9.3 Transmission temperature.
 - ___ 24.9.4 Fuel level.
 - ___ 24.9.5 Voltmeter.
 - ___ 24.9.6 Tachometer.
 - ___ 24.9.7 Air pressures, air 1 and air 2.

25. WINDSHIELD WIPERS

- ___ 25.1 Two speed electric windshield wipers with intermittent feature and electric washers.
- ___ 25.1.1 Wiper blades to be Arctic Winter type.
- ___ 25.1.2 Washer nozzles will be located on the wiper arms.

26. MIRRORS

- ___ 26.1 Door mounted heated, stainless steel or power coated west coast mirrors with heated auxiliary convex mirror.

Meets Specs.

Yes No**27. LIGHTS**

- ___ 27.1 Vehicle shall be equipped with all required and manufactures recommended light to comply with FMVSS 108 and ICC requirements.
- ___ 27.2 Halogen sealed beam headlights with OEM daytime running lights.
- ___ 27.3 LED clearance and marker lights.
- ___ 27.4 Hazard flashers.
- ___ 27.5 Solid state 16 lamp flasher.
- ___ 27.6 Door activated interior dome light.

28. MISCELLANEOUS EQUIPMENT AND MANUALS

- ___ 28.1 **Delete front bumper.**
- ___ 28.2 Manufacturers standard air horn.
- ___ 28.3 Manufacturers standard electric horn.
- ___ 28.4 Electronic backup alarm.(Preco factory model)
- ___ 28.5 Two front tow hooks and two rear tow hooks. (Frame mounted)
- ___ 28.6 Front mud flaps.
- ___ 28.7 Removable winter front.
- ___ 28.8 One (1) complete service and overhaul manual, CD or on-line access will be provided.
- ___ 28.9 One (1) complete operators manual for each unit provided.

29. PAINT

- ___ 29.1 Basecoat/Clearcoat Polyurethane enamel paint.
- ___ 29.2 Color shall be one solid color selected from manufacturers standard color chart provided with bid proposal.
- ___ 29.3 Interior shall be the lightest standard color available.
- ___ 29.4 Cab will be rustproofed/undercoated using "Ming Auto Beauty" or equal products and application process.

30. TRUCK WARRANTY AND CONDITIONS

- ___ 30.1 The basic standard and extended warranties **MUST** be provided by the original equipment manufacturer.
- ___ 30.2.1 Coverage provided through independent warranty companies "aftermarket warranties" are not acceptable.
- ___ 30.2 Basic vehicle coverage 48 months/50,000 miles.
- ___ 30.3 Engine and engine electronics 48 months/50,000 miles.
- ___ 30.4 Allison transmission and transmission electronics 24 months/50,000 miles.
- ___ 30.5 Drive train and major components (front axle, rear axle, suspension, frame mount brackets and crossmembers, drive line) 48 months/50,000 miles.
- ___ 30.6 Frame 60 months/100,000 miles.
- ___ 30.7 Cab corrosion and structure 60 months/unlimited miles.
- ___ 30.8 Towing 36 months/50,000 miles.
- ___ 30.9 Complete details of the warranty you are providing must accompany your bid.

**31. SEE SECTION II – 13' DUMP BODY-HYDRAULIC SYSTEM-LIGHTING
SYSTEM-SNOW PLOW HITCH (UTILITIES)**

EQUIPMENT SPECIFICATIONS
SECTION II
13' DUMP BODY-HYDRAULIC
SYSTEM-LIGHTING SYSTEM-SNOW PLOW HITCH
(UTILITIES)

1. MODEL

- 1.1 The equipment furnished under these specifications shall be new of the latest improved model in current production as offered to the commercial trade.
- 1.1.1 Bodies are to be Western style crossmemberless design.

Meets Specs

Yes No**2. BODY**

— —	2.1	9.5 cubic yard capacity, struck <u>minimum</u> . (less side boards)
— —	2.2	Length 13 foot.
— —	2.3	Width 84 inches (inside).
— —	2.4	Side height 34 to 36 inches.
— —	2.5	Head height to be manufacturer's recommended for body/hoist combination.
— —	2.6	Minimum 10 inch 25.0 #/ft. structural I-beam long sills.
— —	2.7	3/16 inch AR400 steel floor with radius edges.
— —	2.8	3/16 inch AR400 steel sides with outward sloped seamless horizontal bracing at mid point.
— —	2.9	3/16 inch AR400 steel front panel with reinforced top edge and horizontal brace.
— —	2.10	Fully boxed outward sloped top rail.
— —	2.11	Outward sloped rub (bottom) rail.
— —	2.12	7 gauge A1011 Grade 50 steel, front corner posts and full depth rear corner posts.
— —	2.13	Structural channel rear apron full depth to long sills and full width of box, fully attached to rear corner posts and floor.
— —	2.14	2-1/2" side board pockets with 8 inch 11.5 #/ft. structural channel side boards.
— —	2.15	Full length walk rail shall be installed on both sides of dump body.
— —	2.15.1	Walk rail shall be constructed of step grip perforated metal channel. (Buyers #SG1501048 3 row ladder rung)
— —	2.15.2	Walk rail shall be installed at mid point between rub rail and horizontal bracing flush with front and rear corner posts.
— —	2.16	Full length tarp rail shall be installed on both sides of dump body.
— —	2.16.1	Tarp rail shall be constructed of 1/4 x 2 inch steel flat.
— —	2.16.2	Tarp rail shall be installed at mid point between top rail and horizontal bracing.
— —	2.17	Steel construction, stow-a-way design access ladders shall be installed on right and left side of body next to front corner post.
— —	2.17.1	Ladder shall be approximately 20 inches wide.
— —	2.17.2	Pull-out section to be approximately 30 inches long and designed to angle out 10 inches at the bottom, in fold down position with step grip ladder rungs.
— —	2.17.3	20 x 2.5 inch grab handle constructed of 3/4 inch rolled round installed vertically on front corner post to assist in the use of ladder.
— —	2.18	"MultiGuard" actuated electric vibrator, securely installed between long sills with reinforcement as required. (Tendaire Model # 3500 with automatic timer)

Meets Specs.

Yes No

- — 2.19 Body light provisions will be for clearance and side markers only.
 — — 2.19.1 Rear oval light provisions **will not be included.**
 — — 2.19.2 Stop/tail/turn, backup and emergency lighting provisions are part of the
 Whelen DOT lighting package specified.

3. TAILGATE

- — 3.1 3/16" AR400 steel tailgate with lifting loop.
 — — 3.2 Fully boxed with horizontal brace and two triple boxed vertical reinforcements -
 six panel design.
 — — 3.3 Tailgate height 44 inches.
 — — 3.4 Double-acting upper hinged, lower lever type hooks, with 3/8" alloy spreading
 chains and heavy gauge flexo sleeving.
 — — 3.5 Upper and lower dog-leg slotted chain keepers.
 — — 3.6 Top and bottom hinge pins shall be 1-1/4" diameter cold drawn round stock with
 positive type lock mechanism.
 — — 3.7 Top pins will be removable, have grease zerks, stop rotation mechanism and
 safety lock hardware.
 — — 3.8 "MultiGuard" actuated electric over pneumatic tailgate release.

4. CAB SHIELD WITH INTEGRAL TARP SYSTEM

- — 4.1 89 inches wide, fully boxed leading edge, designed to be structurally sound
 without the need for extended side gussets.(to accommodate 90° exhaust turnout)
 — — 4.2 7 gauge A1011 Grade 50 steel construction.
 — — 4.3 ½ cab shield to project 24 inches out from body head.
 — — 4.4 7" flat front or leading edge to accommodate installation of headboard LED lights.
 — — 4.5 7" side plates to accommodate integral tarp assembly.
 — — 4.6 Shield to be installed 6 inches above cab roof.
 — — 4.7 Horizontal design with minimal slope to body.
 — — 4.8 Shield to be securely welded to the body head.
 — — 4.9 Cab shield will incorporate a tarp system as follows:
 — — 4.9.1 Aero Model Easy Cover 500 Series design.
 — — 4.9.2 Full open box interior with tarp in roll-up position.
 — — 4.9.3 12 Volt electric motor with right angle gear drive.
 — — 4.9.4 85" wide polyester mesh tarp with gravity type "Weight-Down"
 system.
 — — 4.9.5 Side mount "Power-Pack" fully encased spring assemblies.
 — — 4.9.6 Polished aluminum side arms, angled approximately 26° to allow
 arms to be recessed in roll-up position.
 — — 4.9.7 Length to be adequate to properly cover the entire body in the roll-out
 position.
 — — 4.9.8 All wiring and system protection devices will be in accordance with Aero
 installation recommendations.
 — — 4.9.9 "MultiGuard" actuated.

5. HOIST

- — 5.1 Underbody double acting hydraulic with full sub-frame.
 — — 5.2 Double equalizing arm or roller combo design.
 — — 5.3 N.T.E.A. class 90 minimum (as published in N.T.E.A. hoist chart)
 — — 5.4 Lifting capacity 29 ton minimum.
 — — 5.5 Dump angle 50 degrees minimum.
 — — 5.6 Mounting height 17 inches maximum.

Meets Specs.

Yes No

- | | | |
|-----|------|---|
| — — | 5.7 | 6" x 8" x 1/2" structural angle rear hinges with 2" stainless steel pins connecting through 2-1/2" blocks with replaceable greaseless composite bushings. |
| — — | 5.8 | Street and curb side fold down design body props.(pin type not acceptable) |
| — — | 5.9 | Body raise indicator light in "MultiGuard" control stick panel. |
| — — | 5.10 | Critical hoist pivot points will have replaceable greaseless composite bushings. |
| — — | 5.11 | "MultiGuard " actuated. |

6. LIGHTING SYSTEM

- | | | |
|-----|--------|--|
| — — | 6.1 | Lighting must meet F.M.V.S.S. 108. |
| — — | 6.2 | All clearance, side marker and rear identification markers required to meet 108 Standards to be grommet mounted LED. |
| — — | 6.3 | Existing stop/tail and turn lights shall be removed. |
| — — | 6.4 | All wiring provided and installed by the final assembler will be split flex loomed and securely attached using insulated stainless steel cable/wire clamps and stainless steel hardware. |
| — — | 6.4.1 | Wiring harness for all 108 lighting to be factory assembled one piece design with sealed connectors. |
| — — | 6.4.2 | <u>Splicing into chassis wiring is not permitted.</u> |
| — — | 6.5 | Whelen Model DOT-LED (part #27T04MPS) lighting system. |
| — — | 6.6 | Two (2) each 180° Headboard LED flashing light assemblies with branch guard as follows: |
| — — | 6.6.1 | Light assemblies installed on the front or leading edge of the cab shield with the outside edge of the light assembly 12 inches in from the outside edge of the cab shield on both left and right sides. |
| — — | 6.6.2 | Light assemblies will be centered top to bottom on leading or front edge of cab shield. |
| — — | 6.6.3 | Headboard assemblies will have clear lenses with amber/blue Linear LED's. |
| — — | 6.7 | Two (2) each 400 Series rear light assemblies as follows: |
| — — | 6.7.1 | Stainless steel angle housing. |
| — — | 6.7.2 | Installed on the outside of the rear corner posts. |
| — — | 6.7.3 | Linear LED amber/blue flashing lights with TIR3 side lights. |
| — — | 6.7.4 | LED red stop/tail/turn lights. |
| — — | 6.7.5 | LED backup lights. |
| — — | 6.8 | Heavy duty cabling as follows: |
| — — | 6.8.1 | 12" protective flex tube and coupling at each light head. |
| — — | 6.8.2 | TRP oil resistant, tin coated pure copper strand cables. |
| — — | 6.8.3 | "Deutsch" waterproof connectors. |
| — — | 6.8.4 | Cabling lengths as required for flashing LED lights. |
| — — | 6.9 | Flash patterns as follows: |
| — — | 6.9.1 | Both front lights to flash simultaneously. |
| — — | 6.9.2 | Both rear lights to flash simultaneously. |
| — — | 6.9.3 | Front and rear lights to flash in an alternating pattern to each other. |
| — — | 6.9.4 | All flashing lights will be "double flash" design. |
| — — | 6.10 | Flasher and junction box will be installed on the back side of the "CircuitGuard" power distribution center housing assembly. |
| — — | 6.11 | Hood mounted (cross-bar) plow light assembly as follows: |
| — — | 6.11.1 | Grote #64261-4 PER-LUX snow plow lights. |
| — — | 6.11.2 | Custom aluminum construction one piece plow light mount bracket.(J-Craft or equal) |
| — — | 6.11.3 | Independent height adjustment for right and left side plow lights. |
| — — | 6.11.4 | Bottom of plow light to be approximately the same as the hood height in the lowest position setting. |

Meets Specs.

Yes No

	6.	<u>LIGHTING SYSTEM (continued)</u>	
— —		6.11.5	Width of plow lights to be just outside the vertical plane of the hood to allow for height adjustment tubes.
— —		6.11.6	Light bracket will not interfere with hood access panel(s) or stationary grill opening in any manner.
— —		6.11.7	Factory dimmer switch must be functional for both truck and plow lights.
— —		6.11.8	Activation of plow lights will cancel truck headlights.
— —	6.12	Lighting system will be switched as follows and controlled through the "MultiGuard" system:	
— —		6.12.1	Front flashing amber lights.
— —		6.12.2	Rear flashing amber lights.
— —		6.12.3	Front and rear flashing blue lights.
— —		6.12.4	Low intensity flashing lights.
— —		6.12.5	Plow lights.
	7.	<u>CENTRAL HYDRAULIC SYSTEM</u>	
— —	7.1	Basic design as follows:	
— —		7.1.1	Transmission PTO driven, load sensing type.
— —		7.1.2	Capable of actuating and controlling motors and actuators as detailed.
— —		7.1.3	System will utilize closed-center valves, load sensing pressure compensating axial piston pump and a reservoir/valve enclosure.
— —		7.1.4	All hydraulic components will be installed in a neat and professional manner conforming to current engineering and manufacturing practices.
— —	7.2	Hydraulic pump as follows:	
— —		7.2.1	Rexroth Model A10V071DFR/31R-PKC92N00.
— —		7.2.2	Compensator with separate adjustments for main and stand-by pressures.
— —		7.2.3	System pressure to be set at hoist manufacturers recommended Setting.
— —		7.2.4	Stand-by pressure to be approximately 300 psi.
— —		7.2.5	Pump to be left side frame mounted directly across from the reservoir suction port to allow for the shortest possible suction line routing.
— —	7.3	Hydraulic pump drive as follows:	
— —		7.3.1	Chelsea Model 277 PTO.
— —		7.3.2	Mounting position to be left side (8 o'clock).
— —		7.3.3	Drive ratio to be approximately 1 to 1 with engine RPM.
— —		7.3.4	Power shift, actuated through "MultiGuard" system.
— —		7.3.5	Pressure lubricated, designed for extended road speed operation.
— —		7.3.6	Spicer 1310 driveline components.
— —		7.3.7	Slip yoke design shaft with greasable yoke and u-joints.
— —		7.3.8	All shaft locking devices to be wire tied.
— —		7.3.9	Shaft to be professionally balanced for smooth operation.
— —	7.4	Hydraulic valves as follows:	
— —		7.4.1	Rexroth MP-18 valves.
— —		7.4.2	Closed center, sectional type load sensing.
— —		7.4.3	Valves will be individually pressure and flow compensated.
— —		7.4.4	Individual sections for each function.
— —		7.4.5	All sections will be fully proportional electric with manual overrides incorporated into activation solenoids.
— —		7.4.6	Mechanical/adjustable stroke limiters on both plow and hoist valves.

Meets Specs.

Yes No

- | | | |
|-----|--------|---|
| — — | 7.4.7 | Plow raise/lower section: 3-way directional valve with a 7 g.p.m. spool and hollow compensator flow adjustment. |
| — — | 7.4.8 | Plow angle right/left section: 4-way directional valve with a 7 g.p.m. spool and hollow compensator flow adjustment and adjustable port relief to A and B ports set at 1,800 psi. |
| — — | 7.4.9 | Hoist raise/lower section: 4-way directional valve with a 35 g.p.m. spool and hoist down adjustable port relief set at 500 psi. |
| — — | 7.4.10 | A 5,000 psi glycerin filled gauge will read system pressure at the port and be installed on and plumbed to the front side of the valve enclosure. |
| — — | 7.4.11 | Valves will be actuated through stick controls located in the "MulitGuard" system. |
| — — | 7.5 | Reservoir/Valve Enclosure as follows: |
| — — | 7.5.1 | Component Technology "ServiceGuard" series. |
| — — | 7.5.2 | Stainless steel construction. |
| — — | 7.5.3 | 30 gallon capacity. |
| — — | 7.5.4 | Screened filler neck. |
| — — | 7.5.5 | Fluid level/temperature gauge. |
| — — | 7.5.6 | Electric low fluid indicator in "MultiGuard" control stick panel. |
| — — | 7.5.7 | 10 micron in-tank filter. |
| — — | 7.5.8 | By-pass and condition gauge. |
| — — | 7.5.9 | Service shut off valve. |
| — — | 7.5.10 | Bolt-on top and side valve access panels with form fitted gaskets. |
| — — | 7.5.11 | Left side truck frame mounted directly behind cab. |
| — — | 7.6 | Hydraulic hoses and fittings as follows: |
| — — | 7.6.1 | All pressure hoses including signal sense line to pump will have 37 ⁰ JIC swivel fittings on each end and be a minimum SAE 100-R2 rating. |
| — — | 7.6.2 | Return lines and case drain will have 37 ⁰ JIC swivel fittings on both ends and be a minimum SAE 100-R1 rating. |
| — — | 7.6.3 | Suction line will be a minimum SAE 100-R4 rated, 2" I.D. connected with heavy duty banding straps. |
| — — | 7.6.4 | Suction line will utilize a 90 ⁰ fitting directly off of the reservoir to facilitate a straight suction line to pump.(see 7.2.5) |
| — — | 7.6.5 | Pressure hoses from valving to plow lift cylinder and reversing cushion valve will be ½" I.D. |
| — — | 7.6.6 | Snow plow cushion valve with Aeroquip FD45 series ½" stainless steel couplers will be provided and installed on the left (street side) of the plow hitch in a position that allows for ease of plow coupling. |
| — — | 7.6.7 | Pressure hoses to hoist cylinder will be sized per hoist manufacturers recommendation. |
| — — | 7.6.8 | Hoses will be routed in a neat and professional manner and secured with clamps or ties not exceeding 24 inches between holding devices. |

8. OPERATOR CONTROL SYSTEM

- | | | |
|-----|---------|--|
| — — | 8.1 | Center floor mounted armrest design control console as follows: |
| — — | 8.1.1 | Component Technology "MultiGuard" series. |
| — — | 8.1.2 | Integral console controlling all hydraulic functions, auxiliary lighting and warning indicators. |
| — — | 8.1.3 | Armrest adjustable for height and position with stow capability. |
| — — | 8.1.3.1 | Base mounting plate and arm support tube location will be determined at the time of order. |

Meets Specs.

Yes No

— —	8.1.4	Control of snow plow will be through a dual-axis fully roportional joy stick installed in the left position.
— —	8.1.5	Control of the hoist will be through a single-axis fully proportional stick installed in the right position.
— —	8.1.6	Special control stick provisions:
— —	8.1.6.1	Plow control must provide an electronic time activated float function.
— —	8.1.6.2	Hoist control must provide a push button dead-man switch.
— —	8.1.7	Plow functions as follows:
— —	8.1.7.1	Forward movement = Plow Lower.
— —	8.1.7.2	Rearward movement = Plow Raise.
— —	8.1.7.3	Left movement = Plow Angle Left.
— —	8.1.7.4	Right movement = Plow Angle Right.
— —	8.1.8	Hoist functions as follows:
— —	8.1.8.1	Forward movement =Hoist Lower.
— —	8.1.8.2	Rearward movement = Hoist Raise.
— —	8.1.9	Harness for snow plow and hoist controls will be TPE harness system.
— —	8.1.10	Upper left switch bay as follows:
— —	8.1.10.1	Component Technology "TouchGuard" series.
— —	8.1.10.2	Switch #1: Front amber. (on/off)
— —	8.1.10.3	Switch #2: Front/Rear blue.(on/off)
— —	8.1.10.4	Switch #3: Plow lights.(on/off)
— —	8.1.10.5	Switch #4: Rear amber.(on/off)
— —	8.1.10.6	Switch #5: Night amber/blue.(on/off)
— —	8.1.10.7	Switch #6: PTO.(on/off)
— —	8.1.10.8	All switches will have backlighting, activation indicator and be labeled as specified.
— —	8.1.11	Upper right switch bay as follows:
— —	8.1.11.1	Component Technology "Sprague" switch panel.
— —	8.1.11.2	Switch #1: Tailgate Open----Tailgate Closed.(on/off)
— —	8.1.11.3	Switch #2: Tarp Open----Tarp Closed. (momentary/off/momentary)
— —	8.1.11.4	Switch #3: Box vibrator.(momentary)
— —	8.1.11.5	All switches will have backlighting, activation indicator and be labeled as specified.
— —	8.1.12	Control stick panel indicator lights as follows:
— —	8.1.12.1	Front left corner: Low Oil.(red)
— —	8.1.12.2	Front right corner: Body Up.(red)
— —	8.1.12.3	Back left corner: Plow Float.(blue)
— —	8.1.12.4	All indicators will have backlighting and be labeled as specified.
— —	8.1.13	Power distribution center as follows:
— —	8.1.13.1	Component technology "CircuitGuard" series.
— —	8.1.13.2	Power distribution center integral with "MultiGuard" system providing a centralized location for wiring.
— —	8.1.13.3	Field replaceable socketed relays.
— —	8.1.13.4	LED indicator for diagnostics and troubleshooting.
— —	8.1.13.5	Corrosion resistant housing with easy accessible entry panel.
— —	8.1.13.6	Main 12 volt feed to "CircuitGuard" power distribution center will be protected by an 80 amp manual resetting water proof circuit breaker installed on the fire wall next to the chassis power source terminals.

Meets Specs.

Yes No

- | | | |
|-----|-------------|---|
| — — | 8.1.13.7 | Power to the breaker will be through the chassis power source positive terminal. |
| — — | 8.1.13.8 | Ground to the "CircuitGuard" power distribution center will be through the chassis power source negative terminal. |
| — — | 8.1.13.9 | Power feed and ground wires to the "CircuitGuard" power distribution center will be 6 gauge. |
| — — | 8.1.13.10 | All circuits will be run/accessory ignition switch Powered through integral "CircuitGuard" relay. |
| — — | 8.1.13.10.1 | Relay activation wire required. |
| — — | 8.1.13.11 | A master "CircuitGuard" power distribution center on/off switch will be installed on the top of the "CircuitGuard" housing. |
| — — | 8.2 | A complete wiring diagram, specific model information and parts breakdown for the entire "MultiGuard/CircuitGuard" system will be provided to the body builder to insure proper installation. |
| — — | 8.2.1 | All documents described in 8.2 will be provided to the City at time of delivery. |

9. ELECTRIC RELAY BANK

- | | | |
|-----|-------|--|
| — — | 9.1 | Electric relay bank to power the tarp and box vibrator as follows: |
| — — | 9.1.1 | One (1) "Aero" #1067 motor reversing tarp relay. |
| — — | 9.1.2 | One (1) box vibrator relay. |
| — — | 9.1.3 | Relay bank to be installed in a NEMA 4 rated non-metallic enclosure with screw secured front access door or panel. |
| — — | 9.1.4 | Enclosure will be right side frame mounted in the general area of the battery box. |
| — — | 9.1.5 | All wiring entering and exiting the enclosure will utilize liquid tight relief fittings "Sealcon" or equal. |
| — — | 9.1.6 | All activation and power wiring for the tarp and box vibrator will be manufacturers recommended gauge. |

10. SNOW PLOW HITCH

- | | | |
|-----|--------|---|
| — — | 10.1 | Low profile plow hitch with quick link as follows: |
| — — | 10.1.1 | Flink Model PF91QL2 or Monroe PF91QL1 or equal design. |
| — — | 10.1.2 | Heavy-duty, tailored, non-folding low profile design with minimum ½" steel side cheek plates. |
| — — | 10.1.3 | Hitch will be designed and manufactured specifically for the truck provided. |
| — — | 10.1.4 | Frame extension will be shortened to allow the plow hitch to be installed as close to the front of the truck as possible and still maintain the maximum strength and integrity. |
| — — | 10.1.5 | All thrust loads must be transferred to the chassis frame not to the front axle or spring assemblies. |
| — — | 10.1.6 | Quick link, positive lock with plow attachment point 15 inches above the ground. |
| — — | 10.1.7 | Lowest point will allow a minimum of 10 inches of ground clearance. |
| — — | 10.1.8 | The hitch must be designed and installed to allow the tilt-hood with stationary grill to fully open without contacting any portion of the hitch or lift arm. |
| — — | 10.1.9 | The hitch will be installed utilizing grade 8 bolts and lock nuts. |

Meets Specs.

Yes No

- — 10.1.10 Minimum 3 inch bore 10 inch stroke single acting hydraulic lift cylinder with square tube design adjustable lift arm.
- — 10.1.10.1 The lift arm will be pin adjustable to lengths of approximately 30, 35 and 40 inches when measured from the arm pivot point.
- — 10.1.10.2 Lift arm will be designed to accept 3/8" lift chains.
- — 10.1.11 If removed the factory front tow hooks are to be reinstalled in a similar location following hitch installation.

11. PUP HITCH

- — 11.1 3/4" steel pull plate as follows: (J-Craft H.D. or equal)
- — 11.1.1 Holland PH410RN11 pintle hook or equal.
- — 11.1.2 Safety chain "D" rings.
- — 11.1.3 6 pole electrical socket.
- — 11.1.4 Trailer brake air lines with downward positioned gladhands.
- — 11.1.5 Vertical tongue weight 18,000 lbs.
- — 11.1.6 Horizontal tongue weight 90,000 lbs.
- — 11.1.7 Latching tensile strength 20,000 lbs.
- — 11.1.8 Rated capacity 90,000 lbs.
- — 11.1.9 Pintle hitch height approximately 21" from ground level.
- — 11.1.10 If removed, the factory rear tow hooks are to be reinstalled in a similar location following hitch installation.

12. MISCELLANEOUS EQUIPMENT

- — 12.1 Spray Control Systems, Minimizer M500 black poly fenders with stainless steel mount brackets.
- — 12.1.1 Fenders will be installed in a manner allowing for tire chain clearance.
- — 12.2 Non-free swinging rear mud flaps will be installed off of body apron.

13. GENERAL INFORMATION

- — 13.1 One (1) parts book shall be furnished.
- — 13.2 Body to be securely mounted in a position to give approximately 4 inches clearance between the head of the body and rear of cab.
- — 13.3 All welds are to be chipped, brushed and painted with black enamel.
- — 13.4 A proper GVW certification sticker will be affixed.

14. BODY AND EQUIPMENT WARRANTY REQUIREMENTS

- — 14.1 Manufacture's standard warranty shall apply.
- — 14.1.1 Please provide information concerning the Terms and Conditions of warranty with your bid proposal.

15. BODY PREPARATION-PAINT-UNDERCOATING

- — 15.1 Items to be painted to match color code of cab:
- — 15.1.1 Full exterior of body to include both sides of the tailgate.
- — 15.1.2 Inside of body, not including the floor.
- — 15.2 Items to be painted black:
- — 15.2.1 Underside of the body.
- — 15.2.2 Inside of rear corner posts.(as space permits)
- — 15.2.3 Hoist frame.
- — 15.2.4 Pup hitch.
- — 15.2.5 Side boards
- — 15.3 Metal will be completely primed with a rust inhibitive primer/sealer that is recommended by and compatible with the finish coat manufacture.

Meets Specs.

Yes No

- | | | |
|-----|------|---|
| — — | 15.4 | Primer/sealer will be applied in accordance with the Product Data Sheet. |
| — — | 15.5 | Finish coat to be Sherwin Williams SUNFIRE acrylic urethane or equal. |
| — — | 15.6 | Finish coat will be applied in accordance with the Product Data Sheet. |
| — — | 15.7 | Finish must be smooth, shiny, free of runs, oversprays and other defects. |
| — — | 15.8 | Entire system will have a minimum of 4.0 mil dry film thickness. |
| — — | 15.9 | Underside of body will be undercoated using "Ming Auto Beauty" or equal products and application process. |

16. DELIVERY

- | | | |
|-----|------|--|
| — — | 16.1 | The complete unit will be delivered to Fleet Services Garage, 901 North 6 th . Street, Lincoln, NE. complete and ready for operation. |
| — — | 16.2 | The original manufacturer's statement of origin, a service authorization card, and properly executed service and warranty policy will accompany the vehicle when delivered. |
| — — | 16.3 | All manuals and miscellaneous equipment as described in these specifications will be provided at the time of delivery. |
| — — | 16.4 | Pre-delivery inspection will be properly performed prior to delivery with any lack of pre-delivery service resulting in rejection until the unit has been properly serviced. |

17. OPTIONS

- | | | |
|-----|------|--|
| — — | 17.1 | Add factory installed air conditioning with APADs or equal protection and diagnostic system. |
|-----|------|--|

**EQUIPMENT SPECIFICATIONS
SECTION I
35,000 GVWR DUMP/PLOW TRUCK
(STREET MAINTENANCE)**

1. INTENT AND GENERAL INFORMATION

- 1.1 It is the intent of this specification to describe a 35,000 GVWR DUMP/PLOW TRUCK to be purchased and delivered as a complete unit ready for operation, with all equipment indicated provided and installed.
- 1.2 This bid includes the truck cab/chassis, dump body, hydraulics, lighting package, snow plow hitch (less plow) and all installation and delivery costs.
- 1.3 The successful bidder will **NOT** be responsible for providing or installing snow plows or material spreaders as part of this bid.
- 1.4 The specification is generally a two section document with the first section describing the truck cab/chassis and the second section describing the dump body and associated equipment.
- 1.5 All bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Licensing Act. Nebraska revised Statutes, Chapter 60, Article 14.
 - 1.5.1 The licensing requirements must be met at the time of the bid opening for bids to be valid.
- 1.6 The equipment furnished under this specification be new and of the latest improved model in current production as offered to the commercial trade.
- 1.7 All equipment required to for satisfactory operation will be provided whether or not they are specifically addressed in this specification.
- 1.8 Trucks delivered must comply with all current State and Federal safety regulations.
- 1.9 Exceptions to any part of this bid document will be clearly noted by Item # on your company letter head and signed by the appropriate authority.

2. INSURANCE

- 2.1 The successful bidder will be required to fully insure all trucks and equipment, for all perils, until delivery to and acceptance by the City of Lincoln, Fleet Services, 901 North 6th, Street, Lincoln, NE.
- 2.2 Proof of Insurance must be furnished within five (5) days after notification of award to City/County Purchasing Division at the address on Notice to Bidders.
- 2.3 The bidder and all sub-contractors are required to submit proof of Garage Keepers Insurance with their bid proposal.
- 2.4 The City of Lincoln assumes ownership at the time of actual delivery at Fleet Services Garage, 901 North 6th, Street, Lincoln, NE. and acceptance of completed unit.

3. APPLICATION

- 3.1 This truck will be used in a variety of applications to include on/off road hauling of earth, construction rubble, crushed rock and in snow plow and ice control operations.
- 3.2 This application not only demands the truck act as the prime mover for the mounted equipment, but also utilized as the power source for the central hydraulic system through a transmission mounted power take off.
- 3.3 PTO and shaft drive hydraulic pump will be left side (8:00 O'clock transmission PTO location) mounted with hydraulic tank being left side outside frame mounted.
 - 3.3.1 To facilitate installation of the hydraulic system both the inside and outside of the left frame rail should be as clean as possible.

4. MODEL

- 4.1 The chassis furnished under these specifications shall be new 2006 or newer of the latest improved model in current production as offered to the commercial trade.
- 4.2 Example Model:
- 4.2.1 Sterling Acterra
- 4.2.2 International 7000 Series
- 4.2.3 Freightliner M2 106V
- 4.3 Examples listed are intended to show the type and class of chassis desired.
- 4.4 Bidders are cautioned to read the specifications carefully: the specifications may include special requirements not commonly offered by your standard equipment.
- 4.5 Do not assume your standard equipment meets all detailed specifications merely because it is listed above as an example.

Meet Specs.

Yes No

5. GVWR

- ___ 5.1 35,000 lbs. minimum.

6. CAB TO AXLE AND BUMPER BACK OF CAB

- ___ 6.1 84 inch CA.
- ___ 6.2 106 inch to 107 inch BBC.

7. ENGINE

- ___ 7.1 Engine shall be one of the following diesel engines:
- ___ 7.1.1 International DT-466
- ___ 7.1.2 Caterpillar C7
- ___ 7.2 Minimum 250 gross horse power and 800 lb. ft. torque.
- ___ 7.3 Minimum 7.0 liter.

8. ENGINE EQUIPMENT

- ___ 8.1 Heavy-duty single element air cleaner with in-cab control auxiliary under hood inlet (snow valve).
- ___ 8.2 Air cleaner mounted air filter restriction indicator.
- ___ 8.3 Manufacturer's recommended High Capacity cross flow extra cooling design radiator with surge tank.
- ___ 8.4 Peak "Final Charge" coolant with inhibitor, engine coolant to -35F.
- ___ 8.4.1 No exception on brand or type of coolant requested.
- ___ 8.5 Silicone or Gates Blue Stripe hose package to include radiator, heater and by-pass hoses.
- ___ 8.6 Spin on coolant filter (If recommended by engine manufacturer)
- ___ 8.7 Horton Drivemaster automatic on/off fan drive with normally closed temperature controls.
- ___ 8.8 Minimum 1000 watt 115/120 volt block heater with receptacle mounted under left-hand door.
- ___ 8.9 Alliance or Fleetguard fuel/water separator with thermostatically controlled electric heater.
- ___ 8.10 Thermal electric intake heater.
- ___ 8.11 Fuel system primer pump.
- ___ 8.12 Minimum 25 qt. engine oil change capacity.
- ___ 8.13 Spin on oil filter.
- ___ 8.14 Magnetic engine oil drain plug.
- ___ 8.15 Heavy duty starter motor with thermal over-crank protection.
- ___ 8.16 Key operated electric shut down.
- ___ 8.17 Electronic engine system diagnostics with cab mounted J1939 diagnostics port.
- ___ 8.18 Engine shall be capable of electronic interface with Allison RDS series transmissions.
- ___ 8.19 Electronic cruise control.
- ___ 8.20 Electronic push button throttle.

Meets Specs.

Yes No**9. EXHAUST SYSTEM**

- ___ 9.1 Right hand horizontal muffler with vertical tail pipe and tail pipe guard.
- ___ 9.2 Exhaust will be low height design with a 90° turnout for cab shield clearance.
- ___ 9.3 Exhaust system to be frame or cab mounted with no more than 3 inches of CA loss.

10. FUEL TANK

- ___ 10.1 Single 50 gallon left side fuel tank with two access steps.
- ___ 10.2 Tank to be under cab mounted not extending beyond back of cab.

11. TRANSMISSION

- ___ 11.1 Allison RDS 3500 wide ratio, 5-speed with PTO gear and less retarder.
- ___ 11.2 Third gear hold feature.
- ___ 11.3 Instrument panel mounted Allison Push-Button type shift control.
- ___ 11.4 Manufacturers recommended transmission cooler.
- ___ 11.5 Optimum transmission programming for this application.
- ___ 11.6 Easily accessible enabled secondary vehicle ground speed terminal **MUST** be provided for material spreader application.

12. FRONT AXLE AND STEERING

- ___ 12.1 I-Beam type 14,000 lb., front axle - Meritor MFS-14-143A.
- ___ 12.2 Set-back axle configuration.
- ___ 12.3 Single steering gear.
- ___ 12.4 Stemco High Performance "Guardian" unitized wet seal or equal design.
- ___ 12.5 Front end alignment will be performed following body and equipment installation with documentation provided at the time of delivery.

13. FRONT SUSPENSION

- ___ 13.1 Minimum 14,000 lb. capacity leaf springs.
- ___ 13.2 Heavy duty shock absorbers.

14. REAR AXLE

- ___ 14.1 Single speed, single reduction, 23,000 lb. rear axle Meritor RT-23-160 with magnetic drain plugs.
- ___ 14.2 Driver actuated differential lock.(no-spin is not acceptable)
- ___ 14.2.1 Differential lock shall automatically unlock at 25 MPH.
- ___ 14.3 Axle ratio will be determined at the time the order is placed.

15. DRIVELINE

- ___ 15.1 Driveline will be heavy duty and factory balanced.
- ___ 15.2 17T Meritor or equal, driveline with half round yokes.

16. REAR SUSPENSION

- ___ 16.1 23,000 lb. main leaf spring.
- ___ 16.2 4,500 lb. auxiliary leaf spring.

17. FRAME

- ___ 17.1 120,000 minimum PSI yield strength, single channel straight frame.
- ___ 17.2 Minimum 2,000,000 in lbs. R.B.M.
- ___ 17.3 Huck-bolt frame member fasteners.
- ___ 17.4 Minimum 12" integral front frame extension.

Meets Specs.

Yes No**18. WHEELS**

- ___ 18.1 Minimum 7,000 lb. hub piloted, 8.25X22.5, 10 hole ventilated disc, steel wheels.
- ___ 18.2 Wheel to be powder coated, white or grey in color.
- ___ 18.3 Nylon wafers or wheel guards on all wheels.

19. TIRES

- ___ 19.1 11R22.5 H highway tread front tires, Goodyear G159 or equal.
- ___ 19.2 11R22.5 H traction tread rear tires, Goodyear G167 or equal.
- ___ 19.3 One spare front wheel and tire, same brand and model as furnished on truck.
- ___ 19.4 Tires to be Firestone, Goodyear, Michelin, B.F. Goodrich, Bridgestone, UniRoyal, or General and shall carry the company name.

20. BRAKES

- ___ 20.1 Dual air system for straight truck application.
- ___ 20.2 Minimum 13.0 CFM air compressor, Bendix Tu-Flow 550 or equal.
- ___ 20.3 Sealed non-serviceable long stroke front brake chambers.
- ___ 20.4 16.5" x 5.0" S-cam front brakes.
- ___ 20.5 Severe service, fully epoxied 3030 long stroke, rear brake chambers.
- ___ 20.6 16.5" x 7" S-cam rear brakes.
- ___ 20.7 Full vehicle wheel ABS control system.
- ___ 20.8 Bendix AD-IP air dryer with heater right side outside frame mounted directly behind cab.
- ___ 20.9 Right frame rail mounted air tanks with heated auto drain valve on wet tank and manual drains with pull cables on primary and secondary.
- ___ 20.10 Front and rear brake dust shields.
- ___ 20.11 Front and rear automatic slack adjusters with stainless steel pins.
- ___ 20.12 Color coded nylon brake lines.
- ___ 20.13 Color coded yellow, park brake knob on instrument panel.
- ___ 20.14 Trailer brake package with hand control and tractor protection valve for straight truck and trailer application.
- ___ 20.15 Air lines extended to end of frame. (see item #11 of body specifications)

21. ELECTRICAL SYSTEM

- ___ 21.1 12 Volt
- ___ 21.2 Minimum two (2) each heavy duty 12 volt maintenance free batteries with a total 1850 CCA capacity.
- ___ 21.3 Battery box, right side frame or under cab mounted.
- ___ 21.4 Remote jump start terminals.
- ___ 21.5 Delco 22-SI 130 amp capacity alternator.
- ___ 21.6 Circuit breaker protection.
- ___ 21.7 Color coded and protected wiring system.
- ___ 21.8 Power source terminals as follows:
- ___ 21.8.1 Two (2) stud type terminals on the firewall.
- ___ 21.8.2 Negative terminal to frame rail.
- ___ 21.8.3 Positive terminal to starter.
- ___ 21.8.4 Minimum 6 gauge wire.
- ___ 21.9 Inside cab run/accessory relay activation terminal.
- ___ 21.10 Chassis manufacture must provide all wiring required by the final assembler for installation of lighting described in the body and equipment specifications.
- ___ 21.11 The final assembler will not be permitted to splice into any chassis wiring.

Meets Specs.

Yes No**22. CAB**

- ___ 22.1 Fully enclosed safety-type conventional cab with medium trim package and rear cab air suspension.
- ___ 22.2 Minimum 98 inches from grade to top of cab.
- ___ 22.3 Cab to have a minimum of 72 inches of shoulder room per specification sheet.
- ___ 22.4 Cab to have a minimum of 56 inches floor to headliner height.
 - ___ 22.4.1 Raised or bubble roof is not acceptable.
- ___ 22.5 Tilt-forward fiberglass hood and stationary grill.
- ___ 22.6 Hood access panel(s) to allow access to engine compartment without tilting hood.

23. CAB EQUIPMENT

- ___ 23.1 High back vinyl covered air suspension drivers and passenger seats.
 - ___ 23.1.1 "National 2000 Series" or "Bostrom 915"
 - ___ 23.1.2 Seats to be the lightest standard color available.
 - ___ 23.1.3 Both drivers and passenger seats will be fully adjustable for position and be complete with air adjustable lumbar support.
 - ___ 23.1.4 Both drivers and passenger seats will have inboard fold-down design arm rests.
- ___ 23.2 3-point lap and shoulder belts.
- ___ 23.3 Dual entry grab handles.
- ___ 23.4 Dual door mounted armrests or seat mounted fold-down design.
- ___ 23.5 Dual sun visors.
- ___ 23.6 Headliner and insulated rubber floor mat.
- ___ 23.7 Storage pocket in drivers door or overhead console.
- ___ 23.8 AM-FM radio with weather band and two speakers.
- ___ 23.9 Highest available output heater/defroster with replaceable fresh air filter.
- ___ 23.10 Tinted safety glass on all windows.
- ___ 23.11 Deluxe insulation package.
- ___ 23.12 Power drivers and passenger side windows with functional vent windows.
- ___ 23.13 Sliding rear glass if available from manufacturer.
- ___ 23.14 Tilt steering wheel.

24. CONTROLS AND INSTRUMENTS

- ___ 24.1 Key locking starter switch.
- ___ 24.2 Head, park and dome light switch.
- ___ 24.3 High beam indicator.
- ___ 24.4 Differential lock indicator.
- ___ 24.5 **Self canceling** turn signal switch with integral dimmer switch.
- ___ 24.6 Gauge cluster to be English with electronic speedometer.
 - ___ 24.6.1 Odometer to display miles, trip miles, engine hours and trip hours. (engine hours to be non-resettable)
- ___ 24.7 Visual and audible warning system as follows:
 - ___ 24.7.1 Low engine oil pressure.
 - ___ 24.7.2 High engine coolant temperature.
 - ___ 24.7.3 High transmission temperature.
 - ___ 24.7.4 Low air pressure.
- ___ 24.8 Gauge cluster as follows:
 - ___ 24.8.1 Engine oil pressure.
 - ___ 24.8.2 Engine coolant temperature.
 - ___ 24.8.3 Transmission temperature.
 - ___ 24.8.4 Fuel level.
 - ___ 24.8.5 Voltmeter.
 - ___ 24.8.6 Tachometer.
 - ___ 24.8.7 Air pressures, air 1 and air 2.

Meets Specs.

Yes No**25. WINDSHIELD WIPERS**

- ___ 25.1 Two speed electric windshield wipers with intermittent feature and electric washers.
- ___ 25.1.1 Wiper blades to be Arctic Winter type.
- ___ 25.1.2 Washer nozzles will be located on the wiper arms.

26. MIRRORS

- ___ 26.1 Door mounted heated, stainless steel or power coated west coast mirrors with heated auxiliary convex mirror.

27. LIGHTS

- ___ 27.1 Vehicle shall be equipped with all required and manufactures recommended light to comply with FMVSS 108 and ICC requirements.
- ___ 27.2 Halogen sealed beam headlights with OEM daytime running lights.
- ___ 27.3 LED clearance and marker lights.
- ___ 27.4 Hazard flashers.
- ___ 27.5 Solid state 16 lamp flasher.
- ___ 27.6 Door activated interior dome light.

28. MISCELLANEOUS EQUIPMENT AND MANUALS

- ___ 28.1 **Delete front bumper.**
- ___ 28.2 Manufacturers standard air horn.
- ___ 28.3 Manufacturers standard electric horn.
- ___ 28.4 Electronic backup alarm.(Preco factory model)
- ___ 28.5 Two front tow hooks and two rear tow hooks. (Frame mounted)
- ___ 28.6 Front mud flaps.
- ___ 28.7 Removable winter front.
- ___ 28.8 One (1) complete service and overhaul manual, CD or on-line access will be provided.
- ___ 28.9 One (1) complete operators manual for each unit provided.

29. PAINT AND RUSTPROOF/UNDERCOAT

- ___ 29.1 Basecoat/Clearcoat Polyurethane enamel paint.
- ___ 29.2 Color shall be one solid color selected from manufacturers standard color chart provided with bid proposal.
- ___ 29.3 Interior shall be the lightest standard color available.
- ___ 29.4 Cab will be rustproofed/undercoated using "Ming Auto Beauty" or equal products and application process.

30. TRUCK WARRANTY AND CONDITIONS

- ___ 30.1 The basic standard and extended warranties **MUST** be provided by the original equipment manufacturer.
- ___ 30.1.1 Coverage provided through independent warranty companies "aftermarket warranties" are not acceptable.
- ___ 30.2 Basic vehicle coverage 48 months/50,000 miles.
- ___ 30.3 Engine and engine electronics 48 months/50,000 miles.
- ___ 30.4 Allison transmission and transmission electronics 24 months/50,000 miles.
- ___ 30.5 Drive train and major components (front axle, rear axle, suspension, frame mount brackets and crossmembers, drive line) 48 months/50,000 miles.
- ___ 30.6 Frame 60 months/100,000 miles.
- ___ 30.7 Cab corrosion and structure 60 months/unlimited miles.
- ___ 30.8 Towing 36 months/50,000 miles.
- ___ 30.9 Complete details of the warranty you are providing **must** accompany your bid.

**31. SEE SECTION II – 10' DUMP BODY-HYDRAULIC SYSTEM-LIGHTING
SYSTEM-SNOW PLOW HITCH (STREET MAINTENANCE)**

EQUIPMENT SPECIFICATIONS
SECTION II
10' DUMP BODY-HYDRAULIC
SYSTEM-LIGHTING SYSTEM-SNOW PLOW HITCH
(STREET MAINTENANCE)

1. MODEL

1.1 The equipment furnished under these specifications shall be new of the latest improved model in current production as offered to the commercial trade.

1.1.1 Bodies are to be Western style crossmemberless design.

Meets Specs

Yes No

2. BODY

— —	2.1	5 cubic yard capacity, struck <u>minimum</u> . (less side boards)
— —	2.2	Length 10 foot.
— —	2.3	Width 84 inches (inside).
— —	2.4	Side height 24 to 26 inches.
— —	2.5	Head height to be manufacturer's recommended for body/hoist combination.
— —	2.6	Minimum 8 inch 23.0 #/ft. structural I-beam long sills.
— —	2.7	3/16 inch AR400 steel floor with radius edges.
— —	2.8	3/16 inch AR400 steel sides with outward sloped seamless horizontal bracing at mid point.
— —	2.9	3/16 inch AR400 steel front panel with reinforced top edge and horizontal brace.
— —	2.10	Fully boxed outward sloped top rail.
— —	2.11	Outward sloped rub (bottom) rail.
— —	2.12	7 gauge A1011 Grade 50 steel, front corner posts and full depth rear corner posts.
— —	2.13	Structural channel rear apron full depth to long sills and full width of box, fully attached to rear corner posts and floor.
— —	2.14	2-1/2" side board pockets with 6 inch 8.2 #/ft. structural channel side boards.
— —	2.15	Full length walk rail shall be installed on both sides of dump body.
— —	2.15.1	Walk rail shall be constructed of step grip perforated metal channel. (Buyers #SG1501048 3 row ladder rung)
— —	2.15.2	Walk rail shall be installed at mid point between rub rail and horizontal bracing flush with front and rear corner posts.
— —	2.16	Full length tarp rail shall be installed on both sides of dump body.
— —	2.16.1	Tarp rail shall be constructed of 1/4 x 2 inch steel flat.
— —	2.16.2	Tarp rail shall be installed at mid point between top rail and horizontal bracing.
— —	2.17	Steel construction, stow-a-way design access ladders shall be installed on right and left side of body next to front corner post.
— —	2.17.1	Ladder shall be approximately 20 inches wide.
— —	2.17.2	Pull-out section to be approximately 30 inches long and designed to angle out 10 inches at the bottom, in fold down position with step grip ladder rungs.
— —	2.17.3	20 x 2.5 inch grab handle constructed of 3/4 inch rolled round installed vertically on front corner post to assist in the use of ladder.
— —	2.18	"MultiGuard" actuated electric vibrator, securely installed between long sills with reinforcement as required. (Tendaire Model # 3500 with automatic timer)
— —	2.19	Body light provisions will be for clearance and side markers only.
— —	2.19.1	Rear oval light provisions <u>will not be included</u> .
— —	2.19.2	Stop/tail/turn, backup and emergency lighting provisions are part of the Whelen DOT lighting package specified.

Meets Specs.

Yes No**3. TAILGATE**

- — 3.1 3/16" AR400 steel tailgate with lifting loop.
- — 3.2 Fully boxed with horizontal brace and two triple boxed vertical reinforcements - six panel design.
- — 3.3 Tailgate height 32 to 34 inches.
- — 3.4 Double-acting upper hinged, lower lever type hooks, with 3/8" alloy spreading chains and heavy gauge flexo sleeving.
- — 3.5 Upper and lower dog-leg slotted chain keepers.
- — 3.6 Top and bottom hinge pins shall be 1-1/4" diameter cold drawn round stock with positive type lock mechanism.
- — 3.7 Top pins will be removable, have grease zerks, stop rotation mechanism and safety lock hardware.
- — 3.8 "MultiGuard" actuated electric over pneumatic tailgate release.

4. CAB SHIELD WITH INTEGRAL TARP SYSTEM

- — 4.1 89 inches wide, fully boxed leading edge, designed to be structurally sound without the need for extended side gussets.(to accommodate 90° exhaust turnout)
- — 4.2 7 gauge A1011 Grade 50 steel construction.
- — 4.3 ½ cab shield to project 24 inches out from body head.
- — 4.4 7" flat front or leading edge to accommodate installation of headboard LED lights.
- — 4.5 7" side plates to accommodate integral tarp assembly.
- — 4.6 Shield to be installed 6 inches above cab roof.
- — 4.7 Horizontal design with minimal slope to body.
- — 4.8 Shield to be securely welded to the body head.
- — 4.9 Cab shield will incorporate a tarp system as follows:
- — 4.9.1 Aero Model Easy Cover 500 Series design.
- — 4.9.2 Full open box interior with tarp in roll-up position.
- — 4.9.3 12 Volt electric motor with right angle gear drive.
- — 4.9.4 85" wide polyester mesh tarp with gravity type "Weight-Down" system.
- — 4.9.5 Side mount "Power-Pack" fully encased spring assemblies.
- — 4.9.6 Polished aluminum side arms, angled approximately 26° to allow arms to be recessed in roll-up position.
- — 4.9.7 Length to be adequate to properly cover the entire body in the roll-out position.
- — 4.9.8 All wiring and system protection devices will be in accordance with Aero installation recommendations.
- — 4.9.9 "MultiGuard" actuated.

5. HOIST

- — 5.1 Underbody double acting hydraulic with full sub-frame.
- — 5.2 Double equalizing arm or roller combo design.
- — 5.3 N.T.E.A. class 50 minimum (as published in N.T.E.A. hoist chart)
- — 5.4 Lifting capacity 17 ton minimum.
- — 5.5 Dump angle 50 degrees minimum.
- — 5.6 Mounting height 13 inches maximum.
- — 5.7 6" x 8" x ½" structural angle rear hinges with 2" stainless steel pins connecting through 2-1/2" blocks with replaceable greaseless composite bushings.
- — 5.8 Street and curb side fold down design body props.(pin type not acceptable)
- — 5.9 Body raise indicator light in "MultiGuard" control stick panel.
- — 5.10 Critical hoist pivot points will have replaceable greaseless composite bushings.
- — 5.11 "MultiGuard" actuated.

Meets Specs.

Yes No**6. LIGHTING SYSTEM**

- — 6.1 Lighting must meet F.M.V.S.S. 108.
- — 6.2 All clearance, side marker and rear identification markers required to meet 108 Standards to be grommet mounted LED.
- — 6.3 Existing stop/tail and turn lights shall be removed.
- — 6.4 All wiring provided and installed by the final assembler will be split flex loomed and securely attached using insulated stainless steel cable/wire clamps and stainless steel hardware.
- — 6.4.1 Wiring harness for all 108 lighting to be factory assembled one piece design with sealed connectors.
- — 6.4.2 **Splicing into chassis wiring is not permitted.**
- — 6.5 Whelen Model DOT-LED (part #27T04MPS) lighting system.
- — 6.6 Two (2) each 180° Headboard LED flashing light assemblies with branch guard as follows:
- — 6.6.1 Light assemblies installed on the front or leading edge of the cab shield with the outside edge of the light assembly 12 inches in from the outside edge of the cab shield on both left and right sides.
- — 6.6.2 Light assemblies will be centered top to bottom on leading or front edge of cab shield.
- — 6.6.3 Headboard assemblies will have clear lenses with amber/blue Linear LED's.
- — 6.7 Two (2) each 400 Series rear light assemblies as follows:
- — 6.7.1 Stainless steel angle housing.
- — 6.7.2 Installed on the outside of the rear corner posts.
- — 6.7.3 Linear LED amber/blue flashing lights with TIR3 side lights.
- — 6.7.4 LED red stop/tail/turn lights.
- — 6.7.5 LED backup lights.
- — 6.8 Heavy duty cabling as follows:
- — 6.8.1 12" protective flex tube and coupling at each light head.
- — 6.8.2 TRP oil resistant, tin coated pure copper strand cables.
- — 6.8.3 "Deutsch" waterproof connectors.
- — 6.8.4 Cabling lengths as required for flashing LED lights.
- — 6.9 Flash patterns as follows:
- — 6.9.1 Both front lights to flash simultaneously.
- — 6.9.2 Both rear lights to flash simultaneously.
- — 6.9.3 Front and rear lights to flash in an alternating pattern to each other.
- — 6.9.4 All flashing lights will be "double flash" design.
- — 6.10 Flasher and junction box will be installed on the back side of the "CircuitGuard" power distribution center housing assembly.
- — 6.11 Hood mounted (cross-bar) plow light assembly as follows:
- — 6.11.1 Grote #64261-4 PER-LUX snow plow lights.
- — 6.11.2 Custom aluminum construction one piece plow light mount bracket.(J-Craft or equal)
- — 6.11.3 Independent height adjustment for right and left side plow lights.
- — 6.11.4 Bottom of plow light to be approximately the same as the hood height in the lowest position setting.
- — 6.11.5 Width of plow lights to be just outside the vertical plane of the hood to allow for height adjustment tubes.
- — 6.11.6 Light bracket will not interfere with hood access panel(s) or stationary grill opening in any manner.
- — 6.11.7 Factory dimmer switch must be functional for both truck and plow lights.
- — 6.11.8 Activation of plow lights will cancel truck headlights.

Meets Specs.

Yes No

- | | | |
|-----|--------|--|
| — — | 6.12 | Lighting system will be switched as follows and controlled through the “MultiGuard” system: |
| — — | 6.12.1 | Front flashing amber lights. |
| — — | 6.12.2 | Rear flashing amber lights. |
| — — | 6.12.3 | Front and rear flashing blue lights. |
| — — | 6.12.4 | Low intensity flashing lights. |
| — — | 6.12.5 | Plow lights. |
| | | |
| — — | 7. | <u>CENTRAL HYDRAULIC SYSTEM</u> |
| — — | 7.1 | Basic design as follows: |
| — — | 7.1.1 | Transmission PTO driven, load sensing type. |
| — — | 7.1.2 | Capable of actuating and controlling motors and actuators as detailed. |
| — — | 7.1.3 | System will utilize closed-center valves, load sensing pressure compensating axial piston pump and a reservoir/valve enclosure. |
| — — | 7.1.4 | All hydraulic components will be installed in a neat and professional manner conforming to current engineering and manufacturing practices. |
| — — | 7.2 | Hydraulic pump as follows: |
| — — | 7.2.1 | Rexroth Model A10V071DFR/31R-PKC92N00. |
| — — | 7.2.2 | Compensator with separate adjustments for main and stand-by pressures. |
| — — | 7.2.3 | System pressure to be set at hoist manufacturers recommended setting. |
| — — | 7.2.4 | Stand-by pressure to be approximately 300 psi. |
| — — | 7.2.5 | Pump to be left side frame mounted directly across from the reservoir suction port to allow for the shortest possible suction line routing. |
| — — | 7.3 | Hydraulic pump drive as follows: |
| — — | 7.3.1 | Chelsea Model 277 PTO. |
| — — | 7.3.2 | Mounting position to be left side (8 o'clock). |
| — — | 7.3.3 | Drive ratio to be approximately 1 to 1 with engine RPM. |
| — — | 7.3.4 | Power shift, actuated through “MultiGuard” system. |
| — — | 7.3.5 | Pressure lubricated, designed for extended road speed operation. |
| — — | 7.3.6 | Spicer 1310 driveline components. |
| — — | 7.3.7 | Slip yoke design shaft with greasable yoke and u-joints. |
| — — | 7.3.8 | All shaft locking devices to be wire tied. |
| — — | 7.3.9 | Shaft to be professionally balanced for smooth operation. |
| — — | 7.4 | Hydraulic valves as follows: |
| — — | 7.4.1 | Rexroth MP-18 valves. |
| — — | 7.4.2 | Closed center, sectional type load sensing. |
| — — | 7.4.3 | Valves will be individually pressure and flow compensated. |
| — — | 7.4.4 | Individual sections for each function. |
| — — | 7.4.5 | All sections will be fully proportional electric with manual overrides incorporated into activation solenoids. |
| — — | 7.4.6 | Mechanical/adjustable stroke limiters on both plow and hoist valves. |
| — — | 7.4.7 | Plow raise/lower section: 3-way directional valve with a 7 g.p.m. spool and hollow compensator flow adjustment. |
| — — | 7.4.8 | Plow angle right/left section: 4-way directional valve with a 7 g.p.m. spool and hollow compensator flow adjustment and adjustable port relief to A and B ports set at 1,800 psi. |
| — — | 7.4.9 | Hoist raise/lower section: 4-way directional valve with a 35 g.p.m. spool and hoist down adjustable port relief set at 500 psi. |

Meets Specs.

Yes No

- | | | |
|-----|--------|---|
| — — | 7.4.10 | Conveyor drive section: 2-way directional valve with a 15 g.p.m. spool. |
| — — | 7.4.11 | Spinner drive section: 2-way directional valve with a 7 g.p.m. spool. |
| — — | 7.4.12 | A 5,000 psi glycerin filled gauge will read system pressure at the port and be installed on and plumbed to the front side of the valve enclosure. |
| — — | 7.4.13 | Valves will be actuated through a combination of stick controls and GL400 spreader control located in the "MulitGuard" system. |
| — — | 7.5 | Reservoir/Valve Enclosure as follows: |
| — — | 7.5.1 | Component Technology "ServiceGuard" series. |
| — — | 7.5.2 | Stainless steel construction. |
| — — | 7.5.3 | 30 gallon capacity. |
| — — | 7.5.4 | Screened filler neck. |
| — — | 7.5.5 | Fluid level/temperature gauge. |
| — — | 7.5.6 | Electric low fluid indicator in "MultiGuard" control stick panel. |
| — — | 7.5.7 | 10 micron in-tank filter. |
| — — | 7.5.8 | By-pass and condition gauge. |
| — — | 7.5.9 | Service shut off valve. |
| — — | 7.5.10 | Bolt-on top and side valve access panels with form fitted gaskets. |
| — — | 7.5.11 | Left side truck frame mounted directly behind cab. |
| — — | 7.6 | Hydraulic hoses and fittings as follows: |
| — — | 7.6.1 | All pressure hoses including signal sense line to pump will have 37 ⁰ JIC swivel fittings on each end and be a minimum SAE 100- R2 rating. |
| — — | 7.6.2 | Return lines and case drain will have 37 ⁰ JIC swivel fittings on both ends and be a minimum SAE 100-R1 rating. |
| — — | 7.6.3 | Suction line will be a minimum SAE 100-R4 rated, 2" I.D. connected with heavy duty banding straps. |
| — — | 7.6.4 | Suction line will utilize a 90 ⁰ fitting directly off of the reservoir to facilitate a straight suction line to pump.(see 7.2.5) |
| — — | 7.6.5 | Pressure hoses from valving to plow lift cylinder and reversing cushion valve will be ½" I.D. |
| — — | 7.6.6 | Snow plow cushion valve with Aeroquip FD45 series ½" stainless steel couplers will be provided and installed on the left (street side) of the plow hitch in a position that allows for ease of plow coupling. |
| — — | 7.6.7 | Spinner and conveyor pressure fittings will be capped outside of the valve enclosure for future installation of a material spreader. |
| — — | 7.6.8 | A 3/4" capped 37 ⁰ JIC male return circuit fitting will be provided for future installation of a material spreader. |
| — — | 7.6.9 | Pressure hoses to hoist cylinder will be sized per hoist manufacturers recommendation. |
| — — | 7.6.10 | Hoses will be routed in a neat and professional manner and secured with clamps or ties not exceeding 24 inches between holding devices. |

8. OPERATOR CONTROL SYSTEM

- | | | |
|-----|---------|--|
| — — | 8.1 | Center floor mounted armrest design control console as follows: |
| — — | 8.1.1 | Component Technology "MultiGuard" series. |
| — — | 8.1.2 | Integral console controlling all hydraulic functions, spreader functions, auxiliary lighting and warning indicators. |
| — — | 8.1.3 | Armrest adjustable for height and position with stow capability. |
| — — | 8.1.3.1 | Base mounting plate and arm support tube location will be determined at the time of order. |

Meets Specs.

Yes No

— —	8.1.4	Control of snow plow will be through a dual-axis fully proportional joy stick installed in the left position.
— —	8.1.5	Control of the hoist will be through a single-axis fully proportional stick installed in the right position.
— —	8.1.6	Special control stick provisions:
— —	8.1.6.1	Plow control must provide an electronic time activated float function and top mounted material spreader "pause" activation button.
— —	8.1.6.2	Hoist control must provide a push button dead-man switch.
— —	8.1.7	Plow functions as follows:
— —	8.1.7.1	Forward movement = Plow Lower.
— —	8.1.7.2	Rearward movement = Plow Raise.
— —	8.1.7.3	Left movement = Plow Angle Left.
— —	8.1.7.4	Right movement = Plow Angle Right.
— —	8.1.8	Hoist functions as follows:
— —	8.1.8.1	Forward movement = Hoist Lower.
— —	8.1.8.2	Rearward movement = Hoist Raise.
— —	8.1.9	Harness for snow plow and hoist controls will be TPE harness system.
— —	8.1.10	Material spreader controls as follows:
— —	8.1.10.1	Component Technology "GL400" series.
— —	8.1.10.2	Designed for closed-loop operation using a White motor integral conveyor speed sensor with M12 female connector and Allison transmission ground speed provision.
— —	8.1.10.3	Auger sensor harness will be adequate length for future installation of a in-box material spreader, coiled and wire tied to the valve enclosure.
— —	8.1.10.4	Remote "pause" provision will be provided and activated through the "MultiGuard" system.
— —	8.1.10.5	Harness for material spreader will be TPE harness system.
— —	8.1.11	Upper left switch bay as follows:
— —	8.1.11.1	Component Technology "TouchGuard" series.
— —	8.1.11.2	Switch #1: Front amber. (on/off)
— —	8.1.11.3	Switch #2: Front/Rear blue.(on/off)
— —	8.1.11.4	Switch #3: Plow lights.(on/off)
— —	8.1.11.5	Switch #4: Rear amber.(on/off)
— —	8.1.11.6	Switch #5: Night amber/blue.(on/off)
— —	8.1.11.7	Switch #6: PTO.(on/off)
— —	8.1.11.8	All switches will have backlighting, activation indicator and be labeled as specified.
— —	8.1.12	Upper right switch bay as follows:
— —	8.1.12.1	Component Technology "Sprague" switch panel.
— —	8.1.12.2	Switch #1: Tailgate Open----Tailgate Closed.(on/off)
— —	8.1.12.3	Switch #2: Tarp Open----Tarp Closed (momentary/off/momentary)
— —	8.1.12.4	Switch #3: Box vibrator.(momentary)
— —	8.1.12.5	All switches will have backlighting, activation indicator and be labeled as specified.

Meets Specs.

Yes No

- | | | |
|-----|-------------|---|
| — — | 8.1.13 | Control stick panel indicator lights as follows: |
| — — | 8.1.13.1 | Front left corner: Low Oil.(red) |
| — — | 8.1.13.2 | Front right corner: Body Up.(red) |
| — — | 8.1.13.3 | Back left corner: Spreader Pause.(blue) |
| — — | 8.1.13.4 | Back right corner: Plow Float.(blue) |
| — — | 8.1.13.5 | All indicators will have backlighting and be labeled as specified. |
| — — | 8.1.14 | Power distribution center as follows: |
| — — | 8.1.14.1 | Component technology "CircuitGuard" series. |
| — — | 8.1.14.2 | Power distribution center integral with "MultiGuard" system providing a centralized location for wiring. |
| — — | 8.1.14.3 | Field replaceable socketed relays. |
| — — | 8.1.14.4 | LED indicator for diagnostics and troubleshooting. |
| — — | 8.1.14.5 | Corrosion resistant housing with easy accessible entry panel. |
| — — | 8.1.14.6 | Main 12 volt feed to "CircuitGuard" power distribution center will be protected by an 80 amp manual resetting water proof circuit breaker installed on the firewall next to the chassis power source terminals. |
| — — | 8.1.14.7 | Power to the breaker will be through the chassis power source positive terminal. |
| — — | 8.1.14.8 | Ground to the "CircuitGuard" power distribution center will be through the chassis power source terminal. |
| — — | 8.1.14.9 | Power feed and ground wires to the "CircuitGuard" power distribution center will be 6 gauge. |
| — — | 8.1.14.10 | All circuits will be run/accessory ignition switch powered through integral "CircuitGuard" relay. |
| — — | 8.1.14.10.1 | Relay activation wire required. |
| — — | 8.1.14.11 | A master "CircuitGuard" power distribution center on/off switch will be installed on the top of the "CircuitGuard" housing. |
| — — | 8.2 | A complete wiring diagram, specific model information and parts breakdown for the entire "MultiGuard/CircuitGuard" system will be provided to the final assembler to insure proper installation. |
| — — | 8.2.1 | All documents described in 8.2 will be provided to the City at time of delivery. |

9. ELECTRIC RELAY BANK

- | | | |
|-----|-------|--|
| — — | 9.1 | Electric relay bank to power the tarp and box vibrator as follows: |
| — — | 9.1.1 | One (1) "Aero" #1067 motor reversing tarp relay. |
| — — | 9.1.2 | One (1) box vibrator relay. |
| — — | 9.1.3 | Relay bank to be installed in a NEMA 4 rated non-metallic enclosure with screw secured front access door or panel. |
| — — | 9.1.4 | Enclosure will be right side frame mounted in the general area of the battery box. |
| — — | 9.1.5 | All wiring entering and exiting the enclosure will utilize liquid tight relief fittings "Sealcon" or equal. |
| — — | 9.1.6 | All activation and power wiring for the tarp and box vibrator will be manufacturers recommended gauge. |

Meets Specs.

Yes No**10. SNOW PLOW HITCH**

- | | | |
|-----|-----------|---|
| — — | 10.1 | Low profile plow hitch with quick link as follows: |
| — — | 10.1.1 | Flink Model PF91QL2 or Monroe PF91QL1 or equal design. |
| — — | 10.1.2 | Heavy-duty, tailored, non-folding low profile design with minimum ½" steel side cheek plates. |
| — — | 10.1.3 | Hitch will be designed and manufactured specifically for the truck provided. |
| — — | 10.1.4 | Frame extension will be shortened to allow the plow hitch to be installed as close to the front of the truck as possible and still maintain the maximum strength and integrity. |
| — — | 10.1.5 | All thrust loads must be transferred to the chassis frame not to the front axle or spring assemblies. |
| — — | 10.1.6 | Quick link, positive lock with plow attachment point 15 inches above the ground. |
| — — | 10.1.7 | Lowest point will allow a minimum of 10 inches of ground clearance. |
| — — | 10.1.8 | The hitch must be designed and installed to allow the tilt-hood with stationary grill to fully open without contacting any portion of the hitch or lift arm. |
| — — | 10.1.9 | The hitch will be installed utilizing grade 8 bolts and lock nuts. |
| — — | 10.1.10 | Minimum 3 inch bore 10 inch stroke single acting hydraulic lift cylinder with square tube design adjustable lift arm. |
| — — | 10.1.10.1 | The lift arm will be pin adjustable to lengths of approximately 30, 35 and 40 inches when measured from the arm pivot point. |
| — — | 10.1.10.2 | Lift arm will be designed to accept 3/8" lift chains. |
| — — | 10.1.11 | If removed the factory front tow hooks are to be reinstalled in a similar location following hitch installation. |

11. PUP HITCH

- | | | |
|-----|---------|--|
| — — | 11.1 | 3/4" steel pull plate as follows: (J-Craft H.D. or equal) |
| — — | 11.1.1 | Holland PH410RN11 pintle hook or equal. |
| — — | 11.1.2 | Safety chain "D" rings. |
| — — | 11.1.3 | 6 pole electrical socket. |
| — — | 11.1.4 | Trailer brake air lines with downward positioned gladhands. |
| — — | 11.1.5 | Vertical tongue weight 18,000 lbs. |
| — — | 11.1.6 | Horizontal tongue weight 90,000 lbs. |
| — — | 11.1.7 | Latching tensile strength 20,000 lbs. |
| — — | 11.1.8 | Rated capacity 90,000 lbs. |
| — — | 11.1.9 | Pintle hitch height approximately 21" from ground level. |
| — — | 11.1.10 | If removed, the factory rear tow hooks are to be reinstalled in a similar location following hitch installation. |

12. MISCELLANEOUS EQUIPMENT

- | | | |
|-----|--------|---|
| — — | 12.1 | Spray Control Systems, Minimizer M100 black poly fenders with stainless steel mount brackets. |
| — — | 12.1.1 | Fenders will be installed in a manner allowing for tire chain clearance. |
| — — | 12.2 | Non-free swinging rear mud flaps will be installed off of body apron. |

Meets Specs.

Yes No**13. GENERAL INFORMATION**

- — 13.1 One (1) parts book shall be furnished.
- — 13.2 Body to be securely mounted in a position to give approximately 4 inches clearance between the head of the body and rear of cab.
- — 13.3 All welds are to be chipped, brushed and painted with black enamel.
- — 13.4 A proper GVW certification sticker will be affixed.

14. BODY AND EQUIPMENT WARRANTY REQUIREMENTS

- — 14.1 Manufacture's standard warranty shall apply.
- — 14.1.1 Please provide information concerning the Terms and Conditions of warranty with your bid proposal.

15. BODY PREPARATION-PAINT-UNDERCOATING

- — 15.1 Items to be painted to match color code of cab:
- — 15.1.1 Full exterior of body to include both sides of the tailgate.
- — 15.1.2 Inside of body, not including the floor.
- — 15.2 Items to be painted black:
- — 15.2.1 Underside of the body.
- — 15.2.2 Inside of rear corner posts.(as space permits)
- — 15.2.3 Hoist frame.
- — 15.2.4 Pup hitch.
- — 15.2.5 Side boards
- — 15.3 Metal will be completely primed with a rust inhibitive primer/sealer that is recommended by and compatible with the finish coat manufacture.
- — 15.4 Primer/sealer will be applied in accordance with the Product Data Sheet.
- — 15.5 Finish coat to be Sherwin Williams SUNFIRE acrylic urethane or equal.
- — 15.6 Finish coat will be applied in accordance with the Product Data Sheet.
- — 15.7 Finish must be smooth, shiny, free of runs, oversprays and other defects.
- — 15.8 Entire system will have a minimum of 4.0 mil dry film thickness.
- — 15.9 Underside of body will be undercoated using "Ming Auto Beauty" or equal products and application process.

16. DELIVERY

- — 16.1 The complete unit will be delivered to Fleet Services Garage, 901 North 6th. Street, Lincoln, NE. complete and ready for operation.
- — 16.2 The original manufacturer's statement of origin, a service authorization card, and properly executed service and warranty policy will accompany the vehicle when delivered.
- — 16.3 All manuals and miscellaneous equipment as described in these specifications will be provided at the time of delivery.
- — 16.4 Pre-delivery inspection will be properly performed prior to delivery with any lack of pre-delivery service resulting in rejection until the unit has been properly serviced.

17. OPTIONS

- — 17.1 Delete Component Technology GL400 Material Spreader Control Box and replace with removable panel cover.
- — 17.1.1 All other Material Spreader related items will be provided and installed as specified.
- — 17.2 Add factory installed air conditioning with APAds or equal protection and diagnostic system.